



## Original Correspondence.

## THE RATING OF COAL MINES.

SIR.—I feel indebted to your correspondent, "Observer," for the "brief" and clear review of my "views" on the Rating of Coal Mines, also for his equally impartial review of the letter of one whom he describes as "one of my opponents," the former communicated to your Journal of the 18th inst., and the latter of the 27th. I agree with "Observer" that the complaint in reference to the rating of coal mines is "want of uniformity rather than over-taxation;" in proof of which I can refer to a colliery in this neighbourhood rated on nearly 6000*l.*, whereas in a township not far distant another colliery, nearly as large, is rated at little more than one-eighth of this amount.

The first named colliery is situated in a *town parish*, where the parish officers are elected by the ratepayers. The second is situated in a *colliery township*, where the township officers are the *servants of the coalowner*.

In stating my views on the rating of coal mines, I admitted my figures were vague, and subject to correction; yet, in the course of the discussions which I have had since the publication of my letter, I have heard nothing advanced to alter my opinion as to the correctness of the principle of estimating the value of a colliery. I have, however, seen that in carrying out the principle propounded an alteration of the basis of calculation is required.

I find on examining colliery accounts that the materials and labour for repairs, and also all the renewals of horses and tubs, are charged in the working expenses of the colliery, and, therefore, provided for in the 60 per cent. allowed as working expenses; there is, also, an element in valuing collieries which I have overlooked, and for the correction of which I am indebted to "one of my opponents." The omission to which I refer is the fund to provide for the redemption or reproduction of the money invested in winning the colliery, or, as some call it, the "guarantee." In the rating of gasworks and railways, the Court of Queen's Bench have held that, in addition to the deduction for ordinary repairs, a further sum should be allowed for renewal or reproduction where the works are of a perishable nature.

It cannot be said that collieries are of a perishable nature, and renewable, for no amount could renew or reproduce a coal mine. They are clearly, however, of an *exhaustible* nature, and no person would invest his money in a colliery unless, in addition to the interest on the capital invested in winning the same, he obtained, as rent, a sum to refund or reproduce the amount which he had expended. Such an allowance, I think, would fairly come within the meaning of the statutable deduction of "other expenses" specified in the first section of the 6 and 7 Will. IV., cap. 96, as necessary to maintain the hereditaments in a state to command such rent.

Of course, the amount of allowance in this respect will depend entirely upon the sum expended, and the probable life or duration of the coal mine.

"One of my opponents" estimates the cost of the colliery which, in my sketch for rating, I illustrated to cost 15,000*l.*, and the life or duration at 14 years, which, by the way, I think a very short life or period for working a mine which has cost 15,000*l.* Yet, for the sake of illustration, I adopt his figures.

To provide a fund to renew or reproduce 15,000*l.* in 14 years (supposing the money to be invested at 5 per cent., which is the same rate I allow as interest on tenant's capital) will require 5102 per cent. per annum, or 765*l.*, and not 1071*l.*, which my "opponent" supposes.

My amended sketch for the valuation of a colliery stands thus—

Gross value of coal produced	£12,000 0 0
Working expenses at 60 per cent., and other expenses, as before stated	8,700 0 0
Allow 25 per cent. interest, and 25 per cent. tenant's profits on tenant's capital of 4950 <i>l.</i> , as before stated	1,482 0 0
Gross rent	£1,818 0 0
Deduct fund to reproduce 15,000 <i>l.</i> at the end of 14 years	765 0 0
Rateable value	£1,053 0 0

The allowances in my former sketch of rating of 138*l.* for renewals, and 286*l.* 10*s.* for repairs, are provided for in the deductions already allowed.

Referring to the views of "one of my opponents" on the subject of rating collieries, I think he is correct in taking the profits for the purposes of assessment on an average of a certain number of years; this would provide for loss from extraordinary accidents or otherwise—correcting his figures as to the amount to be provided as a fund for the renewal or reproduction, in 14 years, of the 15,000*l.* expended in winning the colliery, his amended estimate will stand thus:—

Balance of profit and loss account	£ 3,800 0 0
Amount to provide for renewal of 15,000 <i>l.</i>	£ 765 0 0
Interest and depreciation of stock	1200 0 0 = 1,965 0 0
Gross rent	£ 1,335 0 0
Deduct 1/6th for sundries	222 10 0
Rateable value	£ 1,112 10 0

Showing only a difference of 59*l.* 10*s.*, or little more than 5 per cent. difference between "one of my opponent's" scheme and mine.

"Observer" asks,—"Would it not be better, on the whole, to assess upon the vend, say 4*d.* per ton, upon all coal raised, and assume that the profits per ton are equal; or let all coal raised be calculated at 2*s.* per ton?"

This scheme might be very convenient, and so would the uniform assessment of all houses according to their size, irrespective of quality or situation; but no one would admit such a principle of assessment either to be equal or just, as houses vary in value according to quality and situation—so do coals. The profits per ton on coals must depend much upon the quality, and upon the situation or locality of the colliery. Coals produced within half-a-mile of the place of shipment are of much more value at the pit's mouth (which must be the basis of value) than coals produced at a distance of 15 or 20 miles from it.

T. F. HEDLEY.

Sunderland, Dec. 31.

## WORKING COAL—"PILLAR AND STALL" v. "LONG WALL."

SIR.—I am somewhat amused by Mr. Goodwin's closing remarks in his elaborate paper of Dec. 20, wherein he says—"Space will not permit of any further remarks, or I should have pointed out many objections to the use of Mr. Naysmith's so-called pillar and stall system that I have not touched upon." What has he said against the system, or what can he, as a conscientious man, say against the system? He does not say anything, but begins at the very outset with personalities. He thus begins—"Since Mr. Naysmith has been so candid as to admit that his practical experience has been derived under the guidance of some of the most practical mining engineers of the day," this is evidently too humble an admission on my part to suit Mr. Goodwin's more refined taste, he, therefore (in a quiet way, peculiar to himself), tries to insinuate that I am little better than a pupil. Is this the case, Mr. Goodwin? Did you never require the advice of a practical mining engineer? I should think not, by his high-sounding speech; he was born perfection, I suppose, and never required the assistance of anyone; and the person Mr. Goodwin showed my plans and sections to, though of 40 years' experience, is not more enlightened in mining matters than he ought to be. However, I know that it is not possible to meet everyone's ideas, therefore I am not surprised to hear that such expressions of feeling have been given way to, but this is easily accounted for, in some cases where people are prejudiced to one system. What I have said before I will repeat—that the system of working one vein may not answer in another in the same district. In this view I am corroborated by several gentlemen of over 40 years' experience (some of whom have been further from home than Mr. Goodwin), who have had many difficult seams to work on many different systems. Mr. Goodwin says—"But I think even Mr. Naysmith will admit that the difficulties cannot be very great in arriving at the conclusion that it is unwise to condemn any system before trying it. It is against this unwise course that I shall have a few words to say in the shape of advice to Mr. Naysmith: my advice is [Mr. Goodwin's, of course], first satisfy yourself that that which you represent or understand to be a certain system is really what you believe or represent it to be." What does Mr. Goodwin mean by all this? Does he wish me to become a pupil of his, and adopt all his ideas? I cannot do this, Mr. Goodwin; but I am afraid you misunderstand the meaning of all this writing, as I always gave you credit for more candour whenever I read any of your communications in the Journal. My object in writing first was to confute the arguments brought forward by Mr. Shepherd against the mining engineers of South Wales. I do not wish to dictate to any person how coal should be worked elsewhere, but I cannot, and will not, allow that any person, from any part of England, who has not had practical experience in Wales is so qualified to give an opinion as to the working of different systems as a person who has had many years' practical experience in England and in this country, of whom there are many in Wales. Mr. Goodwin says—"If Mr. Naysmith had not furnished your readers with

diagrams illustrative of what he calls the long wall system, some of his objections might not be without weight, but since he had done so, any arguments that he may employ against the long wall system, when skilfully conducted, must have no meaning, inasmuch as he does not represent the long wall system in his diagrams."

Now, Mr. Goodwin, I think you charged Mr. Shepherd with trying to misrepresent some of your statements last week. What are you doing in the passage I have now quoted from your paper? What is the meaning of the term long wall? Does it not apply to a system of taking away the whole of the coal at once? and are there not many modifications of it, as in the pillar and stall? Did I ever say in any of my papers that it was the most improved method of long wall work? On the contrary, I know it to be otherwise; and it is quite different to what I have seen worked elsewhere. But I may tell Mr. Goodwin, that his most improved method of long wall work could not be worked at all in the two seams called the 4 feet and 9 feet veins. The 4 feet varies in thickness from 6 to 7 feet, and the 9 feet from that thickness to 18 feet; and in some cases it may be found so small as 3 feet. But, as I said before, the long wall is worked as represented in my diagrams in some collieries in this district; therefore I thought it might be of service to some parties to point out its defects. It would have been quite incorrect and useless for me to have represented the system as worked in Mr. Goodwin's district, I therefore faithfully and truthfully represented the system as worked here, and because I have done so Mr. Goodwin says I am not acquainted with the long wall system of getting coal; he will, I trust, find out his mistake before long. Mr. Goodwin says he has seen several collieries worked on the pillar and stall, as shown in my diagrams, and gives us some (of what he calls) interesting facts of the last he saw worked on this principle. Now, I do not disbelieve this, Mr. Goodwin, but I would like to ask a few questions about this wonderful colliery. First, then, what is it called?—2. How many tons per day did the colliery work on the pillar and stall system?—3. The number of tons per day worked by the long wall system?—4. The thickness of the seam, and does it generate much inflammable gas? Mr. Goodwin says—"During the time we were going through the workings I challenged (champion-like, this) the manager as being unable to show me which way the air was circulating by the deflections of the flame of a candle." I hope Mr. Goodwin does not wish to quote this as a model of a pillar and stall colliery. I could show Mr. Goodwin extensive collieries worked by this pillar and stall system, which would not only turn the flame of his candle, but extinguish it; and yet it is not safe to work with a naked light; but the air-ways, &c., are not kept by *three day men*, as described by Mr. Goodwin, as being ample to keep the ventilation. This interesting description of Mr. Goodwin's forcibly reminds me of some small isolated collieries in the North of England, where I have seen the colliers or hewers waiting on the top of the pit, and when they saw a couple of asses approaching with sacks on their backs they descended to their work, knowing they had *trade for the day*; but, Mr. Goodwin, if this colliery were so badly ventilated and worked by safety-lamps as you so interestingly describe, as a friend of humanity, I ask you, what you wanted there with a naked candle?—are there no other and safer means of trying the circulation of the air than by the deflection of a candle? Mr. Goodwin's insinuations about the brattice-cloth do not need comment; but the writer remembers when a few hundreds of yards of this cloth would have done good service, had it been at hand as suggested.

J. NAYSMITH.

## ACCIDENTS IN MINES AND COAL PITS—HOW TO LESSEN AND PREVENT THEM.

SIR.—I have frequently heard of a practical treatise on this subject, but like a great many others, have not read it (until within these few days). It may be possible that others, like myself, who wished to get the pamphlet do not know where it is procurable, and its price. Its title is a "Practical Treatise on Accidents in Coal Mines," &c., by Matthias Dunn, Government Inspector of Mines; price 1*s.*; published by Simpkin, Marshall, and Co., London; and I am so favourably impressed with its really practical hints and propositions for safety in mine workings, that I consider it should be in the hands of every man who can read, who is in any way connected with mines and workings, and that the rules and suggestions should be read to all the working miners who cannot read for themselves, or procure the pamphlet. The certainty is now defined that the accidents are becoming more frequent and more direful in their results than before. This may be attributed to more extensive workings, and proportional risks incurred. But it is equally certain that, although for a few weeks or months local and public sympathy and generous feelings are aroused for the sufferers and their pauperised relatives after each calamity, still, as a whole, there is very little really done to prevent a recurrence of these accidents, although the remedies are known, and continually offered to the proprietors, managers, &c., of these mines and collieries; but because it is not enforced and imperative, this laxity of precaution gradually extends itself into careless or listless indifference. It is sincerely to be hoped that legislative enactments will, ere long, so protect the workmen as to benefit the owners as well; and Mr. M. Dunn's wishes and mine also be realised, by saving life, limbs, and property.—Milford, S.W., Dec. 30. W. AUSTIN, C.E.

## THE EDMUND'S MAIN COLLIERY EXPLOSION

SIR.—In referring to this calamity in last week's *Mining Journal*, you refer to Mr. Parker's protest against the verdict, and very justly say that no other could reasonably have been expected, but you did not state the grounds of the protest. Mr. Parker contends that the quantity of gas in the dip bord-gate was increased by the unjustifiable rapidity with which the coal was excavated, the men working in shifts or sets, which followed each other in regular succession day and night; the exertions of the men being stimulated by a bonus of 1*s.*, which was given to each of the sets that succeeded in excavating 50 yards of coal within a fortnight. This mode of working resulted in the constant liberation of a large quantity of gas, which made the use of gunpowder highly dangerous. That the evidence conclusively proves that gas issued in blowers, and in considerable quantity, from both faces of the dip bord-gate for several weeks before December 8, and had been repeatedly fired by the men in the prosecution of their work; that the gas was fired in the dip bord-gate by a blast of gunpowder on the 4th ult., and was again fired by a naked candle on Saturday, the 6th, when the men were engaged for nearly an hour in putting the fire out: that the use of gunpowder in the dip bord-gate had been attended with great danger to the men employed in the colliery for several weeks before the 8th; and its continued use in blasting the coal after the danger attending that mode of excavation had been so frequently demonstrated was a proceeding reckless on the part of the men, and highly culpable on the part of those who either authorised or permitted it. Mr. Parker also condemned Mr. Mitchell for leaving 238 persons "engaged in so dangerous an occupation as coal mining without the supervision of a competent coal-viewer." Now at first sight it, no doubt, appears extraordinary that an opportunity should have been allowed for the expression of such opinions, but before passing an opinion it should certainly be considered whether the protest is unanswerable; I would, therefore, ask—Was the 1*s.* bonus given in all parts of the mine, or simply in the part near Swatlie's? I believe it was only near Swatlie's, and the inference is that no stone was left unturned to secure the opening of a communication with Swatlie's as speedily as possible. Would not the reaching of Swatlie's shaft have rendered the entire ventilation so perfect that an explosion would have been almost impossible? No one can but condemn the use of gunpowder and naked lights in such a position as they were placed at Edmund's Main, but we should be careful ere we find mine owners guilty of "manslaughter" because an accident occurs.—Jan. 1. A. E.

## ELECTRO-MAGNETIC MOTIVE-POWER.

SIR.—Some years since there were great expectations entertained that electro-magnetism could be availed of to produce motive-power; but recently the idea appears to have been altogether abandoned. As the subject is a highly interesting one, I should be glad to learn, through the columns of the Journal, whether anyone is at present engaged in its investigation. I am aware that in January, 1858, you published an abstract of a paper by Dr. Joule, in which he stated that, comparing coal with electricity, the result was as nine to one in favour of the former; and I also read Mr. Donkin's remarks upon that statement—that the results of the decomposition in the battery must be utilised. Mr. Donkin recommended Daniell's battery as the best, the zinc being converted into sulphate of zinc, and the sulphate of copper into metallic copper; but observed that 4*s.* worth of sulphate of copper yielded only 3*s.* worth of metallic copper. It will, of course, be said that these statements are so discouraging that further attempts would be useless; but I think it should be considered that there may be instances where the materials for constructing a battery may be cheaper than coal, an opinion which was, probably, entertained by Mr. Thomas Allan, and led him to remark in a paper read by him before the Society of Arts, that "common sense and a proper deference to the philosophy of common things indicate that electric motive-power will no more supersede steam than steam the water-wheel, as each and all have their own field of operations and functions to fulfil."

Messrs. Cumine and Hunter, in the same year, made the attempt to keep the electro-magnets at similar distances, and to concentrate the power; but I have not heard that their machine was ever applied to any practical extent. Messrs. Pellis and Henry proposed the use of conical magnets, and this seems to have been about the last important effort made.

Now, I am inclined to think that these conical magnets might be availed of. It would appear that if the electro-magnet be made in the form of a cone, and the soft iron in that of a conical shell, magnets of any strength could be made in a very limited space. I am aware such magnets would be considered open to the objection that the attraction would not be direct, but I believe the advantages would outweigh the disadvantages. Another useful arrangement, I think, would be to arrange the magnets like books in a book-case, making the shelves of soft iron attached to each other, and connected with the beam by a connecting-rod close to the fulcrum; by this means a direct attraction could be obtained, and at the same time an almost unlimited amount of power. I cannot think so enormous a power as that of electricity should be lost, and feel fully convinced that there are electricians ingenious enough to render its use commercially economic. In considering electric motive-power, the case appears to me to be very different from that of the electric light, and for this reason—light loses so much in distance, that if electricity were substituted for gas in the streets it would be necessary to have one electric lamp for each 12 gas lamps replaced, but as a motive-power electricity could be applied in small quantities, and none need be lost.

G. F.

## AUSTRIA, AND COMMERCIAL ENTERPRISE.

SIR.—Being desirous, as a supporter of Lord Palmerston's Government, to encourage industrial energy wherever it may require it, my attention has been drawn to Austrian speculations in mining, both for coal and other minerals. Fortified, therefore, with the catalogue of the Austrian Government, published during the great Exhibition of 1862, I have recently visited that important but, I regret to say, ill-managed and race-divided empire, in order to select such undertakings as appeared likely to be most satisfactory and fortunate in their results. What has most struck me, is the amazing variety of products the various sections of the kingdom are capable of, beginning at gold and silver, and ending with coal (both black and brown), and every item of mineral produce used in the ornamental and industrial arts. My first enquiries were, however, directed to the tenure of concessions, and their facility of transfer to foreigners, these being very essential elements in forming a judgment of the value of mining speculations, and their eligibility for the investments of my friend—"the British capitalist." It would be natural to expect that in a large empire like Austria, with its many races, its vast extent, and its depressed financial condition, would be desirous of presenting every facility to the introduction of capital, and the facility of intercourse and access; what did I find, however, on my recent visit, fresh as I was from a perusal of Lord Palmerston's speech at the Southampton dinner, given to Baron Thierry? In the first place, I was stopped at Bodenbach, on the Austrian frontier, by some slight informality in my passport, and coolly told I must wait there four hours, or go back to Dresden for *visé* by the Austrian Consul at that city. This looked awkward, and would have cost me the delay of a day or two, had I not had a friend with me whose passport was in order, who, interceding on my behalf, convinced the Dogberries of the Austrian police that I was not a Frenchman, as they supposed, but an Englishman, and finally induced them to consent to my proceeding, on condition that I should lose no time in reporting myself to Prague to the chief of the police, who would permit me to remain if he was satisfied with my explanation. This seemed to me a pretty fair beginning to an Englishman desirous of advising his friends to embark in Austrian mines, and caused me to ask would our friend, Louis Napoleon, on the other side of the Channel, have treated me in a similar manner, had I been desirous of investing in *La Belle France*? However, once arrived at Prague, I commenced my enquiries with reference to the mines, and, to my surprise, I found the majority of the coal ground occupied by small, insignificant holders—men of straw, who it is probable, if they lived to the age of Methuselah, would never be in the position to work them; in fact, owing their rights of mining entirely to the position of Austrian laws, which give to anyone claiming them the right to absorb large tracts of coal, to the exorbitant demands for concessions, which, in reality, had cost their owners the merest bagatelle, and in which in fact they had done so little as to convince anyone that the owner was merely in the position of a fortunate gambler, or had, in gaining these concessions, merely drawn a successful ticket at a lottery.

GERMANICUS.

## STAMP DUTY ON TRANSFER OF SHARES.

SIR.—If no consideration money be stated in the transfer, and if the mine be a cost-book mine, then a 6*d.* stamp is sufficient.

If the mine be not a cost-book mine, then the amount of purchase-money, if any, should be stated in the transfer, otherwise the stamp must be that known to lawyers as a "duty not otherwise charged," which can be found by looking at the Stamp Act, referred to in my last letter on this subject.

My opinion is, that a cost-book company, not being a scrip company, its share certificates need not bear the 1*d.* stamp.

T. T.

turns of the principal metallic mines the first week in January; and the publication of the returns of our collieries, &c., not more than a month later, would be an invaluable boon.

I could have wished, also, that Mr. Hunt had given us his own idea of the formation of mineral veins, and was surprised that no reference was made in his paper to electricity. It is well known that all our large deposits of mineral are found in the vicinity of, or in contact with, cross-courses, or veins of clay, elvan, &c., running in a different direction to the mineral veins, and without such interruptions to the general strata a mine is considered of little value; and one theory in reference to this is, that these cross-courses interrupt the current of electricity passing through metallic veins, and the minerals held in solution are thus condensed, and form large bodies of ore. While on the subject of electricity, I would add that to its agency, also, it is supposed "dowsing," or using the "divining rod"—the existence of which Mr. Rawlinson says, "is a curious reflection upon the age"—owes its powers. I am not a believer in the art myself, but some years ago I went on a "dowsing" expedition with a friend in Cornwall, accompanied by a professor and firm believer in it, and a description of the process may not be uninteresting. The "dowsing" or "divining" rod is a hazel twig, with two branches like the prongs of a fork. The "dowser" grasps one of the prongs in each hand as firmly as he can, presses his elbows close to his sides, and by movement of the wrist turns upwards that part, of the rod which would be represented by the fork handle. This position is a most constrained one both for nerve and muscle; and in it, myself, friend, and dowser marched like skirmishers across several fields where lodes were known to crop nearly to the surface, without any result except to the professor, whose upraised portion of the rod dropped down once or twice with a sudden jerk, and each time, as the "dowser" declared, when he passed over the back of a mineral vein; and the only explanation I could get was suggested by my friend, that some persons were particularly susceptible of electrical influences; and that in the very constrained position they placed themselves in when "dowsing," their nervous systems were affected by the electric currents in the mineral veins passed over, and the power to sustain the rod in its upright position lost. At any rate, as many persons who have heard of this "divining rod," may never have heard the story of using it explained, I describe it just as it took place—even at the risk of being told that "it is a reflection upon the age we live in."

In conclusion, I would add, in reference to mining speculations and Prof. Tennant's remarks, that, from the fact of my having published, in addition to other works, a Review of the Progress of Mining, every year for the last 19 years, I have, perhaps, been consulted in these matters as much, or perhaps more, than any other person in London, and my advice has been:—1. Never speculate at all, unless with money you can afford to lose. 2. Never embark in any mine whatever, and particularly such as are offered through the means of prospectuses, in large numbers of shares, without obtaining the honest advice of a practical, disinterested agent in the district where the mine is said to be, and this can always be had for a fee of 2*s.*, 2*s.*, 3*s.* In embarking, even in profitable mines, never confine yourself to one, but, on the principle of insuring ships at Lloyd's, divide your risk into five or six sound undertakings, and, in the aggregate, success will attend you.

Were these rules adhered to, we should have few bubble companies to complain of and mining would take the rank that its importance demands.

J. YELLOTT WATSON, F.G.S.

P.S.—Much has been said, also, about the ignorance prevailing in the mining districts; but, having passed many years of my life in agricultural districts, and observed the gross ignorance of the labouring classes generally, my intercourse with Cornish miners has impressed me with a much higher opinion both of their intellects and acquirements. They are infinitely above the average of working men, while the occupation in which they are engaged from childhood renders them acute, shrewd, and intelligent. Of Cornish agents, doubtless, it may be said that more scientific knowledge might be advantageously acquired by many; but, as a class, I take them to be highly intelligent and practical men; and that they are generally considered so is evidenced by the manner in which their services are sought, and highly paid for, in every quarter of the globe where mining operations are carried on.

[The substance of this letter has been communicated to the Journal of the Society of Arts, of which society Mr. J. Y. Watson is a member.]

#### MINES, MINERS, AND MINERALS OF THE UNITED KINGDOM.

SIR.—Mr. Hunt, in his paper on the above subject, speaks of the Cornish miner as superstitious, slow of thought, not willing to communicate, serious, disliking joking, sober at feasts and fairs; and, if removed from home, ignorant, but rarely honest enough to own it; as not having any better knowledge of mining than our forefathers, and that for want of a better scientific education to know how the veins are formed, &c. And Prof. Tennant also condemns their *barbarous* ignorance, in not knowing iron pyrites from copper pyrites, because they call both *mundic* (?).

Now, Sir, as being a Cornish miner, from Illogan, connected with the Redruth and Camborne mining districts, I beg a small space in your valuable Journal for a few remarks. When I left Cornwall, more than twenty years ago, the miners were not of that dull, slow, reserved character which Mr. Hunt speaks of. Should he see them descending underground in large parties, he might hear most of them singing in good style,—yes, the most religious are generally cheerful. Again, see them when exposed to danger, as they often are. Could he witness the quickness of thought and the cheerfulness with which they proceed to avert further danger, he would not then say they were slow or dull. Again, see those who do not pretend to be religious, at the fair or market, in the time of their jollity, as I often have. You see the smiling face and sparkling eye, which denote activity. Again, as "A Working Miner" says, of the testing of the ore by the flame of a candle; yes, and they often apply this test to the water dropping from the roof of the levels, by which means good discoveries have been made, which our scientific men would never have thought of. There is no doubt but many Cornish miners, when removed from home, feel closely attached to the Cornish system in everything. I remember, some years ago, a Cornishman coming to the North of England as an ore dresser. When he came I was laying out dressing-floors, putting in grates, &c. He said, "This is not the way we dress at home; this will never do." But when it was tried, he was *honest* enough to own that he was wrong. We can dress more ore with the grates for 1*s.* than with the griddle for 2*s.*, 6*d.*, and most Cornish miners, when they see a better system than their own, are not slow to act on it, as you may find by Capt. Carthew, of St. Just, when he stated at the meeting the other day that he was dressing the tin for something like half the cost of their neighbours. Such instances of improvement I think of greater benefit to the mining community than if we could explain the exact method of charging the vein with the ore being dressed.

My predecessor, educated in one of the first mining schools in Europe, and a thoroughly scientific man, was for years studying a better system of mining and dressing the ore from Tyndrum Mine; and after awhile he brought it to perfection, with angle-troughs, gates, self-acting babbles (or tyes, as Mr. Bettess calls them), a description of which you published in the Journal. And I think everyone who knew that gentleman will admit that he did everything he could to promote mining; but when I succeeded him, two or three years ago, I was obliged to change his system, both underground and at surface, which made a saving of 20 per cent. underground, and over 90 per cent. in the dressing. Now we can dress the stamping ore for one-fourth the price at which it could be done in Cornwall 20 years ago. We can buddle with our self-acting babbles, without any kind of machinery, more than 20 tons of slime in a day, with one boy, and the separation much better effected by trunting.

Now, a word to Prof. Tennant; I never knew a Cornish miner, *barbarous* as he is, call yellow ore (copper pyrites) *mundic*; but I well remember a professor coming here who called iron pyrites copper, and told me to tell the Marquis of Bredaibane that it was 25 per cent. of copper, when it was over 50 per cent. of sulphur; he also wanted us to get bags or boxes to save some decomposed iron pyrites in, as he said it was rich copper ore. I have seen a good many of such scientific men during the last fifteen years, and when they are making their reports on the mines there is scarcely one of them who knows anything about the price for cutting the ground or dressing the ore, but must learn every item of cost to frame their reports. I think of the greatest importance to the miner to study well the locality he is in—to know all the different hedges and slides of the vein—as well as the changes in the rock where the vein is rich or poor; also the different bearings of the joints in the rock, as these have often much to do with the character of the vein, and great help to get at the productive parts of the vein, so that the miner may not always have to burrow through the rock without any more guidance than the *mole*.

B. GRINELL,  
Manager of the late Marquis of Bredaibane's Mines.

Tonmadasan, Kenmore, N.B., Dec. 26.

#### MINES, MINING, AND MINERS OF THE UNITED KINGDOM.

SIR.—The above was the subject of an interesting paper, read before the Society of Arts on Dec. 17, by Mr. Robert Hunt, F.R.S., Keeper of Mining Records, at the Royal School of Mines. I have always noticed with pleasure the high interest taken by this gentleman in all that concerns the prosperity of British Mining, but especially his great zeal in behalf of the poor uneducated Cornish miner.

The mines of our country enable us to wield a power more than equal to all the standing armies in the world, and, therefore, give us the first rank amongst the nations, consequently the more extensive is our knowledge the more erudite are we in all things pertaining to our successful development, and the better able shall we be to perform our mission as pioneers of the world.

That our mining communities are still wrapped up in the misty, cloudy atmosphere of ignorance is beyond controversy. Miners, we are told, from their very childhood are trained to observation; yet their powers of observation are of a very limited order. Their experience is made up of a knowledge of peculiarities existing within a confined area. But who can wonder at this? Speaking generally, we have not the means to educate our children, and if boys have to descend into our mines at the tender age of 7 to 10 years, shut out from the glorious sunshine, subjected to a life of toil and hardship, amid the chilling damps and cloudy atmosphere natural to mines, is it to be wondered at that they grow up with stunted intellects, or that their manhood is a period of darkness and ignorance? I have been told during some of my rambles in the east and north of this island that the Cornish people were in a state of semi-barbarism, and I was once asked how far Cornwall was from England! And whenever a professor, or some less bright luminary, condescends to write or lecture on the subject now under consideration, Cornish miners, especially, come in for the best share of praise. That we are really so low in the scale of humanity, or more ignorant than other communities, admit of disputation. But what has been done to remove the seemingly settled darkness that has so long obscured our mental vision? What kind of machinery has been set in motion to plough up the fallow ground, and prepare it to receive the seeds of knowledge? Is the fashionable teaching of the day calculated to nourish and quicken the germ that is within us? Is the instruction submitted to us of the right kind or degree; does it remove the difficulties which beset our path, or lead to the solution of these problems, at present wrapped in mystery, but which when revealed will enable us to take an excursion down, I believe, to the centre of gravity? We believe that all things in the heavens and in the earth are governed by fixed immutable laws, many of which have already developed themselves; but that such a glorious epoch in the history of Mining will ever dawn upon the world when all these may be demonstrated, all uncertainty removed, the great superstructure of the globe so dissected and thrown open that we may look into it as through a glass, is a doctrine we cannot in our ignorance entertain. Most miners have learnt to read the names of the different series of rocks forming the crest of the earth, and to know the relative position of each layer and group, from the granite up to the chalk. They have observed that every leaf of this great book appears to be divided and subdivided into sections, each of which shows some distinctive feature characteristic of the variety of metals and minerals found therein; have noticed the crystallization of the rocks, the structure and strike of the beds, the direction of the lodes across the great cleavage planes, the influences brought to bear on these by the junctions of cross-courses, slides, bands of porphyry,

and trap dykes; that one vein may be found traversing a highly metalliferous rock, and yet be barren; while another, crossing the same country, cutting through the same individual beds (at a different angle), is brimful of riches. We have seen, too, the landmarks reared up over our land by the agency of some great law, erected as beacons, guiding lights in our pathway, and by the aid of which we have selected the spots, gone down into Mother Earth, and extracted the precious treasures concealed in her bosom.

Can anyone look at the range of granite from St. Ives Consols to Bodminack without being struck with its peculiar surface outline, or fail to see the strong analogy it bears in that respect to the Caradon range? Who has passed through the Marazion district without noticing Carn Perran, Carn Venton, the great beacons at the back of the town referred to, not forgetting that splendid monument of the power that can lift the world—St. Michael's Mount? See how the vast deposits of metal have been found clustering around these great pillars of the district. Observe how nearly parallel are all the bunches, how nearly all the lodes in this basin of slate, so to speak, are fed by great elvan-courses, which are evidently connecting links between the western and Crown granite hills. Go into the Redruth district, and you immediately come to the conclusion that the great granite boss, Carn Brea, is the backbone of the neighbourhood. What a group of mines, all within an area of a few miles on either hand of the line forming the junction of the granite with the slate. Go where you may, the same analogy will be found to exist.

The districts I have referred to have yielded vast amounts of treasure, dug up by men who burrow as does the mole, without any guiding light. If this be true, then "ignorance is bliss, 'tis folly to be wise." When, and to whom, did our Professors point out where a profitable mine has been found? What have they said or written whereby the moles might burrow with such mighty safety to the great human family? They have given a good general description of the country, but when did they attempt to particularise? When did our paid teachers attempt to explain why lodes so productive of tin in the slate, as at Great Wheal Vor, become poor on entering the granite; and why was that rule reversed at Great Wheal Vor? What intimation had we that Dolcoath Mine would pass through such a transformation? Can they show the reason why the upper section of that mine should be so rich in copper, and the lower one so rich in tin, or which of the two deposits is the most recent? Did one section change from tin to copper, or the other from copper to tin? Why not attempt to explain such phenomena upon the evidences of inductive research? It is very probable that this interesting example of the diversity of Nature's laws will be followed by others in the same locality, if not in more distant ones. With the above before our eyes, inductive reasoning may assist in the solution of neighbouring problems, but we shall have to travel the road of enquiry unaided by the Professors. We admit our ignorance, our inability, to grapple with many of the difficulties that surround mining, but we see no chance of rescue at the hands of those who are paid to instruct us. The kind of instruction professed at the present day is of too high a class to be beneficial to the working miner. You must first show him where to find the bunch of ore, leaving the question of physics and chemistry, in connection with filling matter of lodes, for after consideration. I consider the latter a purely scientific enquiry, and not of the least service in a commercial point of view.

Suppose the wind admitted of chemical analysis, to make the test, and be able to describe its elements, would be very interesting, but such an enquiry would not bring any increase of propelling power. Tell us how the rocks are formed, how the fracture are made, and the filling matter brought in and fixed, if you like; but tell us, please, where the treasures are—where profitable mines are to be found. Give us the true guiding light, and we will thank you. When you have done this you will have crushed that dark ignorance which spreads over all like a fungus, and have planted in its place some of the seeds of the tree of knowledge.

MINER.

Minsterley, Salop, Dec. 30.

MINES, MINING, AND MINERS, OF THE UNITED KINGDOM.

SIR.—It is sometimes amusing to witness learned ignorance in high places. In what age or country did the miners live whom Mr. Hunt described so eloquently? Poor Professor Tennant, too, whose fame as a mineralogist had already reached below par in the Cornish ear, must again be compelled to open his mouth in the endeavour to charge others with his own ignorance. Never was there such an unlucky random shot as that poisoned barb—poisoned, indeed, but only to wound and communicate its virus to the hand that dealt it—"That Cornishmen are too ignorant to distinguish iron pyrites from copper pyrites, because they call both *mundic*." Can the Professor be ignorant of the fact that most of the copper ore sold at the Cornish TICKETINGS is that veritable copper pyrites he asserts we know nothing of? This Professor seems to know about as much of the subject as that unfortunate monkey, who thought he could shave like his master, but in the endeavour cut his own throat.

Mr. Hunt referred to the evidence given by Mr. John Taylor, before a Committee of the House of Commons—"That there are no greater facilities for ascertaining the productive character of a mine now than formerly. Our knowledge is not greater than that of our forefathers. The difference is in improved machinery." But this, so far from proving that "the science of mining can scarcely be said to have an existence," on the contrary, proves that it not only does exist, but that it existed previous to the birth of the Hunt luminary. If our knowledge is not greater than that of our forefathers, it follows that our forefathers were as good miners as ourselves, consequently, that the science of mining existed before us; and every miner knows that in reality this is the case. The old miner has certainly not been excelled by the modern, either in finding the mineral or in dressing it, only in greater dispatch, leading to larger quantities being returned.

Mr. Hunt may say all our knowledge is empirical, but we believe it is a knowledge which leads us aright, nevertheless. He may say there is an entire absence of any method by which a knowledge may be obtained of the causes; but will he tell us that the miners' province is to spend his time in tracing out remote causes (by inductive research), which even philosophers have not yet reached? Or is it not rather the miners' particular province to follow the ever-varying phenomena before him, and by deductive research endeavour to understand the chances he has of bringing mineral into the market in paying quantities? Much of the ignorance with which the miner is charged really belongs to the learned professors themselves. Let them go underground, and they will, after overcoming their own awkwardness, and that nervous dread of something unseen which is the real cause of their generally coming up as ignorant as they went down, begin to learn something of the wonderful operations in the grand laboratory of Nature, of which they now, in their learned ignorance, talk only to expose themselves to the ridicule of the man who wins his crust from the dark depths of the earth. No man can understand the most lucid description of underground phenomena without some direct acquaintance with such things; and one or two visits underground are not sufficient to clear away the mists of prejudice which have been accumulating for so many years over the minds of those professors who generally talk most on the subject. That was a happy thought of Prof. Morris which caused the expression in one of his lectures of a great truth in simple language, when he said "the less a man knew of a subject the better he could often talk about it." Happy ignorance which enables its votaries to indulge in rhapsodies of eloquence, charging want of knowledge upon those who are in reality their only teachers, but of whose teachings they can never realise the full advantage until they become sufficiently earnest to endure the labour necessary in acquiring a knowledge of that alphabet by which alone may be read the great book of Nature, many pages of which are now open to the more determined searchers after truth, whom they malign.

Mr. Evan Hopkins' many letter last week did much to counteract some of the ill effects of Mr. Hunt's ill-chosen remarks; but is it not a pity that such a clever man as Mr. Hunt should possess, and promulgate with all his well-known eloquence, such ridiculous notions? Suppose a case that one single Cornish miner was really such an ass as he has been depicted, would it be politic for a man who had the most remote desire of elevating or informing him, to first give him such an estimate of his capacity or acquirements? Would not a *true* philosopher rather seek to lead him on by easy gradation into the grand arena of knowledge, until for himself he should discover his own ignorance? The fact of the great Professor coming direct from the Miners' Association and deriving himself of such a rhapsody of misconception proves, not the obfuscation of the Cornish mind, but the blinding effect of adulation upon the well-balanced mind of the learned Professor.—Redruth, Jan. 1.

W. TREGAR.

#### MINES, MINING, AND MINERS, OF THE UNITED KINGDOM.

SIR.—It has been said that "great discoveries, destined, like those of gunpowder, printing, and steam, in the end to change the face of the world, never came to maturity but by slow degrees;" but in the last half of a century some of those discoveries can scarcely be said to march towards perfection by "slow degrees." In almost every part of the civilised world, and especially in our own country, the most important changes have been made—changes as far almost from the apprehension of our fathers a century ago, as a visit to the moon is to us at the present day. In that period we have to a great extent changed our inland mode of transit for goods and passengers, and swept the stage-wagon and mail-coach off the road, and reduced the time employed in travelling from days almost to hours. We have seized the "forked lightning," and turned it into a postboy, and it carries our messages over the electric wires eastward, westward, northward, and southward, at any distance we require, almost instantaneously; and it wants nothing but a continuation of wiry road to become our swift letter-carrier to the ends of the earth, and to convey our thoughts through seas as well as on land around the world.

Our steam-ships now traverse the Atlantic, the Southern, the Indian, and the Pacific Oceans; America is brought within a few days of our shores; India, China, and Australia, once at the distance of many months or a year, are now within a few weeks voyage of our homes. The improvements in our domestic comforts are scarcely less marked—than the servant girl relieved of the tedious method of obtaining fire from the "tinderbox and steel" by the invention of the "inciner match." to the nobleman, now saved the annoyance of cutting his goosequill and the labour of closing his letters, by the introduction of the metallic pen and the envelope. The improvements in agriculture, and in our manufacture of raw material, have reduced the price of our food, and brought cheap clothing within the means of our labouring working classes, and supply them with the means of information in the form of newspapers, public libraries, literary institutes, reading-rooms, &c. In fact, almost every branch of industry has greatly changed even in this country, with it is contended, one exception—MINING. After deducting the improvements in the steam-engine by Boulton and Watt, and the introduction of the rotatory engine for stamping and winding, and the tubular boilers by Trevithick, the mining is said to be at this day just where it was 200 years since. "The hoisted treasures are claimed for by men who burrow, as does the mole, without any guiding light," so says Mr. B. Hunt, F.R.S. Now, Sir, I believe many men have been waiting, since the establishment of the Royal School of Mines for some theory or practice, or some method, to issue from those learned gentlemen at the head of that department of the nation's wealth, to conduct mining on a more safe, economical, expedient, and scientific plan, than has hitherto been pursued in this country. In a word, they want to know where to open a good mine—and when opened, they want to know the most economical method of draining it, ventilating it, winding the stuff dressing the ore, and preparing them for the best market. Will any of those scientific men inform us? or, if they will not trust us with the secret, let them open a mine themselves—a MODEL MINE—and show us what they can do. Surely, if they possess the secret of divesting mining speculation of the serious risk of loss to which it is now subject, and will be to a great extent with our limited amount of knowledge, they ought for the benefit of mine adventurers, and for the good of the many thousands in this and other countries depending on the produce of mineral mines, either to work the mines themselves, or divulge the great secret for the benefit of others.

It is a more waste of time with those gentlemen to tell us we are ignorant, and will not receive their instruction, and that this assumed fact the sole reason for leaving us in the "dark ignorance" now hanging over us. Had other philosophers pursued the same course, what had been our present position as a nation? Had the Stephensons and Brunells waited until they overcame all the ignorant prejudices of the English wagon-drivers, coach-drivers, coach-guards, postboys, mail-carriers, and others, before they laid down our iron roads, and put the electric telegraph into operation, what had been our state at the present moment? Had they waited until all the "tara" of the old school had consented to change the "roll" of his old sailing man-of-war for the motion of the

steam-ship, and the fresh breeze that braced him on the "tops" for the smoke and steam of the funnel, where would the "iron walls" of old England be at this day? Or, had the nation stayed until the old "salts" of Nelson's school could be convinced that there was any better canon than the old smooth-bore, or any better mode of attack than to run his ship close up to an enemy, and fire his double or treble-shot guns right into him, before the rifled cannon and Armstrong's or Whitworth's guns had been used, what would the country think of them? Gentlemen, I entreat you to send us, not merely some "seeds from the tree of knowledge," as Mr. Hunt wishes to do; but send us a branch from the tree itself, blooming in full vigour and beauty, scattering rays of knowledge on every side; then shall the tops of our hills be enlightened, and light shall increase until it spread into the lowest valleys, and that darkness which (as the French say) has hung over us "like a fungous" since, I presume, the days of the Druids, shall depart before the rays of the sun of this new mining science, like the darkness of our Cornish nights is scattered before the rays of the morning sun. In the name of the mining interest of this country, I ask the favour of your giving us a practical illustration of your superior mining in some part of this county or the next. We can find lodes, we can open mines, but we cannot tell where to find a mine that will involve no risk of loss, and that will be sure to leave the adventurers a profit on the required outlay.

We are, also, very much in the dark about the method of making worlds and forming mineral veins, and perhaps do not attach so much importance to these profound subjects as Mr. Hunt and his friends think we ought to do. But I must protest against the statement of Mr. Hunt, that "we burrow as does the mole, without any guiding light." We have our guiding light, and until Mr. Hunt or his friends send us a better one, we shall follow it. We do not think that a knowledge of geometry,

been expected. If a mine prove a good one, and you want to get your copartners' shares into your own hands, it is necessary to make calls, without flustering the prospects highly. If you want to keep the shareholders paying calls in a poor mine, you must, of course, cry up the lodes, ends, and shafts accordingly. I knew a mine once, which had a furnace in it, in which a celebrated manager was engaged, according to the reports, in casting in a certain quantity of quartz, containing, per sample, so many hundreds of ounces of gold weekly. Well, I cannot tell how many thousands of ounces of gold were deposited in this refining pot; but, at last, like the mountain in labour, for everything must have an end, the reservoir to receive this enormous lake of gold was formed, when, *mirabile dictu*, in consonance with its classic original, it brought forth its ridiculous mouse, in the shape of, I believe, 1/4 oz. of gold. In this case the shareholders remained entranced to witness the end of the splendid catastrophe, but I have not heard if they were much delighted with the result. If people, for a certain purpose, will disregard and get rid of their own shareholders, it is not surprising that they occasionally should try their hands in disgusting the shareholders of other concerns, and, possibly, in trying to get these concerned for themselves altogether from the unlucky wights of holders, upon the aforesaid principle. In furtherance of such an issue, I see what has been offered as to our East Bronfloy Mine. Now, so far as I am concerned, I would advise my copartners to have nothing to do with these gifted botting gentlemen or their bets—for one reason, I do not like betting as an ordeal of settling differences; for another, I do not elect to go to law with a man who incites you to the trial, having first taken the precaution to name the jury. If I were going to call in some person to decide upon the value of a course of ore in the neighbourhood of East Bronfloy, I should like somebody to judge who deserved nothing but his own conscience, such, for instance, as Mr. Jonathan Pell or Captain Tregoning, for in some places a sort of Imperialism reigns, where, in order to get the proper amount of subversiveness, it is necessary to sacrifice a certain quantity of justice; and if people in such places were to speak of their neighbouring mines as justice requires, it might subject them to what the French journals sometimes have to submit to when speaking too favourably of England—an advertisement.

A SHAREHOLDER.

#### PLANTATION COMPANY OF WESTERN HINDUSTAN.

Sir—Would you do me the justice to insert the following in your next Journal, I reply to Mr. Lee Stevens' letter of the 20th inst., accusing me of a want of courtesy in not answering his letters to my address. From the fact of the information he sought having been inserted in all the daily papers twice previous to the receipt of his letter of the 6th inst., I naturally concluded that he either doubted the fact of the Plantation Company of Western Hindustan having been launched independently, or that he felt disinclined to make a simple calculation from the advertisements, which would have given the desired result. As I was very busy on the receipt of his first letter, I requested the messenger to state that I would be glad to see Mr. Stevens, or he could, if he chose, call upon the brokers, who would give him every information. Mr. Lee Stevens' second letter, I conceive, needed no reply, as that gentleman must be answerable for the acts of his own servants for the non-delivery of a message.

H. S. RANSOM, Secy.

Cornhill, Dec. 31.

#### Meetings of Mining Companies.

##### GREAT WHEAL BUSY MINING COMPANY.

A general meeting of proprietors was held at the company's offices, Austinfriars, on Thursday, Dr. J. E. MATHEW in the chair.

Mr. E. KING (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed. A statement of accounts for the three months ending October was submitted, from which the following is condensed:—

Balance last audit .....	£3500 17 9
Aug. mine cost, merchants' bills, &c. ....	3600 2 10
Sept. ditto .....	3659 8 3
Oct. ditto .....	3611 0 6 = £14,871 9 4
	£3000 0 0
Calls received .....	4317 15 0
Copper ore sold .....	3283 6 2
Tin ditto .....	5 12 6
Arsenic .....	4 5 7 = 10,810 19 3
Leaving debit balance.....	£ 3,760 10 1

The report of the agents was read, as follows:—

Dec. 31.—Since the last general meeting we have sunk Harvey's engine-shaft to the 130, and have opened east and west of the same, on the course of the lode, about 9 feet each way; the lode in the east end has averaged about 6 ft. wide, worth full 40/- per fm.; this we consider a very promising feature, being at the lowest point in the mine. The lode in the west end at this level is at present small and unproductive; as soon as we get under Fielding's shaft we purpose rising against the same, and when communicated with the 130 (which we calculate will take a month or six weeks) will enable us to commence sinking the engine-shaft below the 130. Fielding's shaft is sunk 5 fms. 2 ft. below the 120; the lode is small and unproductive. Offord's shaft is sunk 6 fathoms below the 120; the lode in the last 6 feet sinking has been about 2 feet wide, producing good stones of tin, and is of a promising character. The 120 is extended east of Offord's shaft 23 fms.; the lode has varied in size from 2 to 3 ft. wide, at times producing a little tin and copper ore, but not to value. This end is now within 8 fms. of Carbo's winze, which is sunk 5 fms. below the 110; the lode is 2 ft. wide, worth 30/- per fm. 10/- tin, and is now suspended, in consequence of an increase of water; we hope to be able to resume sinking this winze shortly, as the water is flowing more freely from the 120. The 110 is extended 3 1/2 fms. east from Livet's winze; the part of the lode which we have driven on for the last 10 fms. has proved very small, of little value, and continues so to the present. Looking at this change from the 100, where the lode is very large and productive, we are led to believe that the main part of the lode is still standing south, and are putting out a cross-cut in that direction to prove it; it is extended about 2 fms., but still in the sivan, without the appearance of the lode; should it not prove to our expectations, we intend driving north also. Ham's winze is sunk 2 fms. 5 ft. below the 110; the lode averages about 9 ft. wide, and is worth from 60/- to 70/- per fm.; this winze is about 7 fathoms east of the 110. We commenced to sink Mathew's shaft below the 100 some short time since, but were obliged to suspend it, in consequence of the surface water; we hope soon to resume it, as it appears to be one of the most important points in the mine. The 100 is extended 6 1/2 fms. east of Mathew's shaft; in the first 3 fms. of this driving the lode was only worth from 5/- to 6/- per fm.; since that time it has gradually improved, and is now worth quite 30/- per fm. In the 100, driving west from Fielding's shaft, the lode is small and unproductive. The lode in Bawden's winze, sinking below the 90, east of Mathew's, is large, worth 10/- per fm. for tin. The 90 is extended east of Mathew's shaft 26 fathoms; the lode is about 5 ft. wide, containing spots of tin. The 70 cross-cut is now extended 91 fms. north of King's shaft, but have not yet discovered the lode; in the past week there has been an increase of water, and some branches of quartz intersected, containing good spots of copper ore; this shows that we are nearing the lode, and we consider it a favourable indication, the stratum being a light clay slate or killis, congenial for producing copper ore. The 50 is driven west of Black Dog shaft 17 fms.; the lode is very large, composed of capel, fluor-spar, and spots of copper ore. Boscawen's Mine: We have extended the 70 about 6 fms. west; in the first 2 fms. of this driving the lode was 2 ft. wide, containing stones of ore only; after this it began to improve, and became worth in the bottom of the end 30/- per fm., but at present is fallen off, only producing stones of copper ore. We have suspended this end until we communicate Kitee's shaft, against which we are rising from the back of this level, about 4 fms. behind the end; we have risen 6 fms., and expect to hole the course of next week, which will be of great advantage to us for ventilation and discharging the shaft, being now obliged to drive it through the engine-shaft by a tackle to the 60, which is very slow and expensive. Kitee's shaft is sunk 5 fms. 3 ft. below the 60; the lode is 1 ft. wide, composed of friable quartz and stones of ore, but not to value; the lode is much the same in size and character in the rise referred to above. Hunter's flat-rod shaft is sunk 7 fms. below the 60; the lode has been small, and the ground not so good as expected for the first 4 fms.; since then the ground has improved, and it continues as at present we hope to reach the 70 in six or eight weeks from this time. The depth from the 60 to the 70, on the course of the lode, will be about 13 fms. It will be remembered that at our last meeting we expected on sinking this shaft it would be in all probability drain the bulk of ore driven through and sunk on about 8 or 9 feet below the 60 fathom level, 20 fathoms west of this (Hunter's) shaft, and about 40 fathoms in length, reported to be worth 4 tons of ore per fathom, at 9/- per ton, but the water still flows out of the bottoms, and the increase at the shaft is very little, which can now be easily accounted for, having discovered a small clay cross-course, which was unobserved at that time, standing about 9 fms. to the west of the shaft, which serves as a date for the water; and it is a question if the bottoms will be drained before the 70 is reached and the crossing cut through to which point we hope to arrive before another general meeting takes place. The 60 is extended 90 fms. west of Hunter's shaft, 6 fms. of which have been driven by this company; the lode averages about 2 1/2 feet wide, and is composed of quartz and stones of copper ore, with a kindly appearance. We have communicated the diagonal engine-shaft from the 50 to the 60, and are now engaged in cutting down the same to its proper size. The lode in the 50, driving west of Hunter's shaft, is 1 ft. wide, containing a little ore, but not of much value. We are also extending a cross-cut at the 30, north of John's shaft, on the cross-course, to intersect Kitee's lode, which we expect to reach in about 10 fms. more driving in two months from this time; this cross-cut has not been so easy for exploring as we first calculated on. In conclusion, we beg to state, looking at the present prospects of the mine, that we estimate the returns of tin and copper ores for the coming quarter to be much the same as the last, with a decrease of cost, inasmuch as we have completed the engine at Wheal Daniel, with all the pitwork, launders, &c., for the purpose of supplying our different engines with good condensing water, and many other things that have been required, at a great expense, to put the mine in good working order, which will not be again required, and, of course, effect a great saving to the adventurers. With respect to the Boscawen's part of the mine, up to this time the returns have been very small indeed, and the expense falls very heavily on Busy proper; but if reports are to be relied on (which we have no reason to question), a short time must put this part of the mine in a good position, and we hope to bring the whole to a successful issue.—THOMAS TRELEASE, J. PETHERICK, EDWARD RICHARDS, RICHARD GILES, WILLIAM TRELEASE.

The CHAIRMAN said the report just read was fully detailed the various points of operation that it was unnecessary for him to make any remarks, further than to state that the committee would be glad to afford any additional information shareholders desired.

The SECRETARY, in reply to a question, stated that in the accounts just submitted every liability was charged, including the engine, &c.

Mr. SIMS stated that, in company with Mr. James, he visited the mine on Tuesday last, and he might inform the adventurers that the whole of the machinery was in a most effective condition. An improvement had been effected in the stamping-engine, by which a saving of 2 tons of coal per day was made. The boilers were now supplied with pure water, and the crustation formed from the bad water previously supplied was gradually falling off, exposing the defective parts. When those had been repaired, the boilers would be equal to new.

The SECRETARY reminded the meeting that the crustation upon the boilers had so injured them that they had been supplied to the mine as many as four new boilers per annum, which had cost something like 1200/- That amount in future would be saved, as the water which was now supplied was pure, and did not affect the boilers.

The CHAIRMAN said there was one matter which had been prominently before the committee. It was this—the desirability of putting themselves in communication with Lord Falmouth for a remission of the dues, until such time as the mine was brought into a paying state. He thought that it only required the whole of the details connected with the company to be brought before his lordship to ensure a satisfactory response to their application. Most of the landowners of Cornwall, possessing mineral rights, had from time immemorial granted concessions for the sake of having their mineral ground fully developed; and when any set of adventurers had expended a large amount of money, and had not been successful, the suspension of the dues might reasonably be expected. This course had been followed by the Bassett family, the St. Aubyn family, Mr. Ro-

barts, and even by the Duchy of Cornwall; and it would certainly be anomalous if Lord Falmouth did not give a satisfactory reply to the application of the adventurers to remit the dues until such time as the mine was brought into a paying condition. The question was some time since brought before his lordship, when the dues were reduced from 1-2d/- to 1-3d/-; but, strange to say, when the mine was suffering from accumulated difficulties, and the adventurers were called upon to meet an expenditure of upwards of 10,000/-, an unexpected and sudden notice was received from the toller of Lord Falmouth, that his lordship insisted upon the payment of the full (1-2d/-) dues. It certainly seemed, on the face of it, that his lordship's agents were not desirous that Great Wheal Busy should be tested in depth.

A SHAREHOLDER remarked that he could hardly think the various communications of the committee had been submitted to his lordship, or the shareholders would never have experienced such peculiar and inexplicable treatment.

The SECRETARY, in reply to remarks from several shareholders, stated that one of the most important points to be considered was the discovery in the bottom of the shaft, which was 130 fms. below adit, where a course of tin had been cut, valued by the agents at 40/- per fm. It was evident that this was a separate and distinct branch of mineral, for the end driving in the 130 had a lode from 6 to 8 ft. wide, valued at 40/- per fm.; and 40 fms. east of this point, Offord's shaft had been sunk below the 120, whence they were getting fine stones of tin, which was an evidence that this point was on the top of the same run of ore that was met with at the engine-shaft. Moreover, in the winze sinking still further east, below the 110, was a lode valued for tin at 30/- per fathom. An improvement had taken place in the 100, east of Mathew's, where the lode had increased from being worth 4/- and 5/- to 30/- per fm., and in the winze sinking below the 90, considerably in advance of the above end, the lode, from being poor, had improved to 10/- per fathom; that was a distance of something like 80 or 90 fathoms, where the lode, from the east of Offord's shaft to this point, had been, and was at the present time, exceedingly productive. He considered these to be the important points of the mine, and should these discoveries continue there could be no doubt that the mine, after a short time, would be much more productive.

Mr. MACKENZIE suggested the advisability of the mine being inspected from time to time—say, once a year—by competent agents, to satisfy the shareholders that the property was being developed in a miner-like and economical manner.

The SECRETARY fully agreed with that suggestion, and stated that the property had recently been inspected by two agents, both of whom fully approved of the manner in which the mine was now being developed; and the report upon the Boscawen part of the sett was that the most encouraging character.

Mr. MACKENZIE inquired if it was probable any more machinery would be required?

Mr. SIMS said nothing further would be required in the way of machinery. The large engine was now working at five strokes per minute, while the last time last year it was working at nine strokes, and in a short time the engine which would be working on the adjoining mine would relieve Boscawen engine. There were upon the sett eight steam-engines and about 24 boilers.

The report and accounts were then received and adopted, and a resolution unanimously passed to the effect that application should be made to Lord Falmouth for a remission of the dues until the mine had been brought into a paying state.

Messrs. Sims and James were appointed engineers to the mine, in the room of Mr. Sims, deceased.

The CHAIRMAN said as they had good reason for hoping they would soon arrive at a turning point in their affairs, it had been suggested by some of the largest shareholders that at the next meeting a special resolution should be passed altering the holding of the general meeting from quarterly to four-monthly. By the next meeting they had reason to hope that not only would Great Wheal Busy proper be paying cost, but that the Boscawen Mine, the development of which up to the present time had been a dead end, would then be meeting something like its costs. With reference to the accounts just passed, he might, perhaps, state that the last month's returns, which had realised 2600/-, had not been included—in fact, it was a debtor and creditor account precisely similar to those presented in dividend-paying mines. The returns made up to the day of meeting had not been included, but only such returns had been included as had been made during the months the costs of which had been charged.

Mr. MACKENZIE said they all knew that no business could be carried on satisfactorily if it were in debt, and, therefore, they ought to make a call, which would clear off all their liabilities.

The CHAIRMAN said that a call of 10/- per share would be sufficient to liquidate the whole of the liabilities, except the amount due to Lord Falmouth for dues.

Upon the proposition of Mr. ROWLANDS, seconded by Mr. MACKENZIE, a call of 10/- per share was made.

Mr. SIMS, in reply to a question, stated that there was no doubt the mine had considerably improved, and if these improvements continued, which there was no reason to doubt, the returns would in a short time very considerably increase, and the costs would henceforth be proportionately diminished. The most important point was the improvement which had recently taken place in the deepest part of the mine. The general opinion in the neighbourhood was that this extensive property would soon assume a much more favourable position than it was at present occupied. He had lately spoken with some of the oldest practical men in the neighbourhood, all of whom agreed in the opinion that Great Busy was never worked better than at the present time.

The committee of management having been re-elected, a vote of thanks to the Chairman was passed, which terminated the proceedings.

##### PENDEEN CONSOLS MINING COMPANY.

A general meeting of shareholders was held at the London Tavern, on Tuesday, Mr. W. BAWDEN in the chair.

Mr. D. COHEN (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed.—A statement of accounts for Oct. and Nov. showed a profit of 2061. 2s. 4d. The assets exceeded liabilities by 1219. 10s. 3d.

The report of the agent (Capt. J. Warren) was read. It stated that in the 142 fathoms level north the lode was 2 ft. wide, producing copper, but not to value; in the 142 south the lode was worth 4/- per fathom for tin; in the 130 north the lode was not to value; in the 130 south the lode was producing tin, but not to value—there were 15 fms. more to drive before this end got under the tin ground in the bottom of the 118 south; in the 118 north the lode was poor; in the 118 north the lode was worth 40/- per fathom for tin; in the 106 north the lode was poor; in the 106 south the lode was producing tin-stuff of low quality; in the 94 south the lode was congenial for tin; in the 82 north the end had improved during the last week, and the lode was letting out more water, which they considered a good indication of getting near the great Pendean lode; in the 82 south the lode was small and poor; the adit level had been driven south 6 fms.—lode at present poor; the copper stopes (three in number) were worth, on an average, 8/- per fathom.

A letter was read from the purser (Mr. R. White), in which he stated that he trusted the sales of tin had come up to expectations. They had now, he might say, tons more in course of dressing. They had, undoubtedly, passed through a good piece of tin ground in the 118 south, the present end containing a good lode. They hoped before another meeting to have something important to report respecting the north part of the mine.

Mr. MC CALLAN wished to know if more tin was being raised than could be stamped by the power at present at the command of the agent?—THE CHAIRMAN said he had no doubt, basing his calculations upon the rule adopted in Cornwall, that there was now being discovered three times as much ore as was being brought to market.

Mr. JAMES said he understood Mr. MC CALLAN's question to be this—Would more tin be brought to market if there were more stamps?—THE CHAIRMAN thought there would, for there was a great deal of ore ready for stamping.

Mr. BIRDSEY said that, although the extra stamps had been at work for only one month, the quantity of tin returned during the two months had been double that returned during the corresponding period immediately preceding.

The CHAIRMAN thought they would have good reason to hope that before the next meeting they would be under the new lode.

Mr. JAMES wished to know if the mills referred to at the last meeting had been given up?—THE CHAIRMAN replied that they had not been given up; but the committee wished to have the whole affair in one "take" so as to prevent two or three leases.

Mr. CLIFFORD said the object was to secure the water before the stamp was erected.

Mr. MC CALLAN thought the general aspect of the mine was of an encouraging character.

Mr. JAMES reminded the committee that it was no use getting ore unless it was brought to market.

The report was received and adopted, and the accounts passed and allowed.

The committee of management were re-elected.

The CHAIRMAN said, as the mine had but one captain, and as the purser took a great interest in the company, the committee wished to recommend that the salaries of both the captain and purser should be increased one guinea per month. At present the captain had seven,

Herdfoot to 49<sup>1</sup>/<sub>2</sub>, 50, and in demand. In Foreign Mines, Santa Barbaras have fluctuated considerably, and, under a misapprehension on the part of the shareholders, fell to 14 prem., but have since rallied, and are now 2<sup>1</sup>/<sub>2</sub> to 1<sup>1</sup>/<sub>2</sub> prem. The report from the Quibraza Mines may be expected in about a fortnight's time.

From Mr. EDWARD COOKE.—The general business of the market has been somewhat impeded by the adjustment of outstanding accounts for the end of the year. The new year commenced under very favourable circumstances, both politically and financially. Nothing at present indicates any disturbance of the satisfactory state of things that have existed for many months past, and let us hope that nothing may arise in our own happy country to disturb its prosperity during the year that is just ushered in. We have had numerous gigantic schemes, but really ephemeral in their nature, brought before the public, and notwithstanding all the warning, there is a certain portion of the public who, with a blind fatuity (as it were), are attracted by flaming prospectuses to risk their money in them without taking the least precaution as to their merits. Mining is well known to be highly remunerative as well as speculative to the investor. Witness the great rise in price that has taken place in EAST CARADON, WHEAL GRIFFYLL, TINCROFT, WHEAL SETON, NEW SETON, LUDCOTT, and many other mines during the past year, and compare it with the progress that has been made by Australia and other colonial mining companies, that have called up hundreds of thousands of pounds without as yet returning one penny to the shareholders. I contend that there are much greater chances of success by investing in our Cornish and Devon mines than by investing in some of the questionable schemes termed Foreign mines, although these latter concerns appear to have more fascination than our home mines, to draw such large amounts from the pockets of the public, who absorb with greediness very frequently 50,000 and even 100,000 shares at a premium on the introduction of some new concern to their notice, with a few popular names attached to a prospectus. We need scarcely, however, go out of the United Kingdom for mining districts and concerns that have greater pretended allurements than mining for the base metals. I have my own opinion as to the ultimate results of some of the various companies that have recently sprung up with the view of mining for the precious metals.

Now let us turn to some of our real successes during the past year, and one of the greatest most assuredly is WHEAL GRIFFYLL. These shares have not only risen from about 41 per share to 34<sup>1</sup>/<sub>2</sub>, but they are admitted by every practical man who knows anything about its real merits to be the cheapest share in the market. In fact, I consider they are intrinsically worth 40<sup>1</sup>/<sub>2</sub> to 45<sup>1</sup>/<sub>2</sub>. At the meeting, on Dec. 23, the proceedings were of the most satisfactory character, and besides paying out of profits above the ordinary usual working costs some 840<sup>1</sup>/<sub>2</sub> for new machinery, a dividend of 12 per share was declared. Not the least satisfactory proceeding of the meeting was the recognition of the services of a gentleman who I am sure, from personal observation, has well merited the testimonial to be presented to him by the body of shareholders. EAST CARADON has unquestionably been a great success, and will, no doubt, be a good dividend property for many years to come. The market price, however, is considered by many to be very high. TINCROFTS have risen from 7<sup>1</sup>/<sub>2</sub>, 8 to 13<sup>1</sup>/<sub>2</sub>, 13<sup>1</sup>/<sub>2</sub>—their present price; still I consider there is a margin for a much greater rise. It is one of the safest investments, at 14 to 15, in Cornwall. WHEAL SETONS have advanced more than 100<sup>1</sup>/<sub>2</sub> per share during the past year. GREAT SOUTH TOLZOS, WORVA, DOWNS, WHEAL UNION, CARADON UNITED, EAST CHIVERTON, ILLOGAN MINES, EAST GRIFFYLL, WHEAL HARRIETT, WHEAL GREENVILLE, among the progressive mines, will have a considerable rise in price during the current year.

LUDCOTT and WHEY CONSOLS, notwithstanding all the false reports and prognostications of various parties, has kept on the even tenor of its way, under the very able and judicious management of Capt. Knapp. The shares are not down to 37, neither is all the rich silver-lead ore exhausted, although some 6500<sup>1</sup>/<sub>2</sub>, to 7000<sup>1</sup>/<sub>2</sub>, worth 100<sup>1</sup>/<sub>2</sub> per share have been sold during the past quarter, without any extraordinary effort; and thus a dividend of 10s. per share out of fair profits will be paid to the shareholders on Thursday, the 8th inst. The silver in the eastern part of the mine still continues to yield well, while the western part of the mine has not yet been touched. There are also good indications of silver in the 96<sup>1</sup>/<sub>2</sub>; therefore, taking the mines altogether, the prospects are of a more cheering character than for some time past. I will caution the public, however, to be prepared to hear all sorts of disparaging reports about these mines. A large number of shares have been sold speculatively for time on, and, no doubt, the parties who have sold them will resort to extreme measures with a view to induce shareholders to part with their interest. I would ask them, however, whether or not the manager, Capt. Knapp, has not proved himself well deserving their confidence, and if his report of the present state and future prospects of their property is not more to be relied on than a casual inspector? It should be remembered that the shares stand at a very low price indeed, and paying at the rate of 20 per cent. per annum. A few particulars relative to WORVA DOWNS MINE, which have been handed to me from reliable sources, induce me to believe that during the current year it will take a prominent position in the list. It is situated in the very heart of one of the best tin districts in Cornwall, adjoining Providence, St. Ives Consols, and Rosewall Hill Mines, and having the lodes of all of them traversing the seat. There is ample machinery and steam-power on the mine, and tin sufficient to meet current costs is being raised; while such is the character of the district, and of this mine in particular, that any day a rich carbona may be met with. A carbona now being worked on in the deep adit is already worth from 12<sup>1</sup>/<sub>2</sub> to 15<sup>1</sup>/<sub>2</sub> per fathom, and showing evident signs of becoming very rich. One of these formations on a former occasion produced over 30,000<sup>1</sup>/<sub>2</sub> worth of tin ore, when the price for that mineral was only 40<sup>1</sup>/<sub>2</sub> per ton. The operations are now almost exclusively confined to whole ground. The cost of clearing up the old part of the mine to attain this point has been about 6<sup>1</sup>/<sub>2</sub>, 10s. per share. There are only 994 shares—present price, 6<sup>1</sup>/<sub>2</sub>, 7<sup>1</sup>/<sub>2</sub>.

From Mr. JAMES CROFTS.—On the re-introduction, in Annals Mirabilis, 1862, of the "Gold in England" question, by means of a variety of companies for working gold mines, chiefly in the Principality, the writer, in the pages of the Journal, lent a helping hand in their favour, to which he was prompted not only by sundry reminiscences touching the evanescent quality of a similar movement some seven or eight years since, which resulted disastrously for British capitalists, but from a desire to see the revived question so fairly and fully carried out as to finally demonstrate whether gold existed, either in its matrix or alluvially, in this country, in sufficient quantities to give dividends to adventurers. Of course, such an experiment as searching for gold cannot be divested of the peculiar fascination which has been, in all past times, the desire to clutch the precious metal, and are any attempt to solve the question was certainly, and so far as, a most fortunate one, as witness the VIGRA and CLOGAU, introduced upon a simple basis of 4200 shares only, paying dividends, and standing at a market value of nearly 140,000<sup>1</sup>/<sub>2</sub>, being still in active and successful operation, with all appearances of continued prosperity. This herald of the new gold "mania" which has arisen must, of course, be taken as having stimulated the host of new concerns to which the public, to their credit, have liberally subscribed, in 75,000 shares downwards, but without a thought as to whether companies constituted, with privileges peculiar to themselves, under the shelter of such excessive numbers of shares, had the same chances of success as the concern alluded to in 4200. There is little room for surmises as to results, out of the host of its followers; the experiment, as a whole, being merely on its trial, but, perhaps, it may be added that happy those who have realised appreciable sums in premiums, which may hereafter prove the carrying out of the principle of all merely speculative operations, in its integrity, but which ignores all considerations of a practical or scientific nature, and takes the wrong road to helping the solution of a great industrial question touching the capabilities of this country to rival the glories of California and Australia (and elsewhere) in the production of gold from quartz,—"nuggets" from Wales being thus far, apparently, a question quite *hors de combat*.

So far as the writer's experience permeates into the science of mining, he understands that the chief difficulties hitherto met with in this country have been the mode of separation, or extraction, of the gold from the rock, which appears to have been originally, and is now for undiscovered portions, its natural bed; but with gold visible, and in some cases in large quantities, superior experience has been wanting for its profitable extraction, which experience is at this moment being sought in the employment of gentlemen from Mexico, Australia, and elsewhere, and until these resources fail it cannot be wise that any check should be given to means of further solution of the question. The motto must be "perseverance," for it is to be supposed that the ground now occupied, for instance, by the highly successful company the Vigra and Clogau, is the only few square yards (or miles it may be) in all Wales, where profits out of the metal are capable of realisation? To suppose this is to condemn in toto every other company already constituted, or in course of being so, and especially those who have been successful in raising ample capital for operations, even if preliminary in their character. Somewhere about that great emporium of trade and enterprise, Manchester, there our old gold-mining friend, Mr. Readwin, who gave to the world ( gratis ) his labours in this field some ten years ago, and is now again the leader of companies from which great results are expected. Mr. R. is certainly the practical Englishman for this question—the right man in the right place." Or, shall the eminent talents of Mr. Evan Hopkins, the successful worker-out of the Port Phillip Australian Company, be ignored when he is hard at work in Wales under engagements to a gold company? For clear results as to success or failure the public must evidently wait a little longer, but for some of the new companies there are evidently glimpses of success, however much the road to dividends may have been obstructed by the radically wrong construction of companies already alluded to; and until the tests suggested have been applied to those concerns now in existence, the public themselves will judge whether it is commercially prudent to encourage new ones, however speciously introduced. But, probably, since at this moment more than one or two companies' shares are already either unsaleable or at heavy discounts, the ardour of investors (those who foolishly "pay up" the full amount required under the limited liability) and of the speculators who wisely pay only deposits and calls when required, have received such a check as will, in a degree, nullify the necessity for much attention to the precautions hinted at in the course of the present remarks, and thus the onus is left on the public to protect themselves, since they are never slow to discern the first symptoms of weakness in any of the markets into which fancy or habit may have led them in the search for profit or excitement.

PROSPER UNITED MINES have been lately in that sort of crisis which results from disorganisation in the management, and wide differences of opinion amongst the adventurers, verging to the extreme question as to whether it was any longer safe to hold the share and meet future heavy calls. A certain section, but not a very large one, of them have abandoned the concern by accepting almost nominal prices for their shares, whilst a majority have advocated and carried out a remodelling of the management by transferring, as is reported, the future partnership to Mr. C. Wescob, of Exeter, who, it is understood, will set in that important capacity, if appointed, and thus the retirement of the late purser, Mr. Hosking, said to be *en fait* accomplished, gives value to a report just issued, dated Camborne, Dec. 24, and signed by Stephen Lean and John Nicholls, who state that the mines for the next half-year will be capable of raising 700<sup>1</sup>/<sub>2</sub> worth of tin and copper ore per month. The machinery is described as being of the most magnificent character, capable of carrying the workings to a considerable depth, there being no less than six steam-engines for various duties. The gist of the report is, however, in the concluding paragraph, as follows: "Looking at the monthly cost as 1200<sup>1</sup>/<sub>2</sub>, which will be amply sufficient for all usual purposes, and the produce as 700<sup>1</sup>/<sub>2</sub>, the monthly balance of outlay should not exceed 300<sup>1</sup>/<sub>2</sub>; thus an outlay of capital of 3000<sup>1</sup>/<sub>2</sub> during the next six months, while important points are being laid open, may lead to results of the most profitable character." The shares appear to the writer eligible to buy at a low price.

When attention was lately called to SOUTH WHEAL EXMOUTH lead mine, in the parish of Hennock, near Exeter, the writer was not in possession of sufficient data, as he now is, to enlarge upon its merits and great success. It appears to have been opened less than two years since, and, in 5000 shares, has expended 20s. per share, which stands as the par of the share, and is one of those fortunate concerns by which several individuals (but one in particular) have been enriched by many thousands, and the more credit is due to the party, since it has been under his management as purser that the mine has so short a period reached the dividend state. The district appears highly favourable for lead, and the present returns are 80 to 90 tons per month, or in money about 1200<sup>1</sup>/<sub>2</sub>. A continuance of such success will convert the shares into a valuable investment, as about 12 per share dividend is expected per annum upon a cost of 51, 10s. for the shares. The appearance of the mine in the Journal being only recent, it is hoped that the management will send to that repository regular weekly reports of progress, and monthly sales of ore, and thus establish the *bona fides* of the concern in such a shape that the out-adventurers can watch its progress towards the further success which appears to be anticipated.

What may now be called the OLD PROSPECTIVE MINE was some time since abandoned, in consequence of the defection of shareholders regarding calls, but the mine has just been resuscitated by the name of NEW PROSPECTIVE, in 6000 shares, under the secretaryship of Mr. John Watson, of George-yard; 7s. 4d. per share paid, and will be free from

calls, it is calculated, for about seven months; in the meantime tin will be raised and sent to market. There is a steam-engine, and all other necessary machinery complete, for all purposes of developing the property. The old mine sold 20 tons of tin during its workings of about one year. It is situated in the parish of Sithney, the district of Great Wheal Vor, and celebrated, as is well known, for tin lodes of magnitude. About 4000 of the shares have been already placed in private hands, and chiefly amongst the old shareholders. As a word in favour of these shares, the writer intimates that an early purchase of a few hundred would probably yield a very handsome percentage.

#### WEST CLOGAU MINING COMPANY.

The following report has been addressed to the directors by Mr. R. GILLMAN, the secretary of the company, who has just returned from an inspection of the mine:—"Having spent a few hours on the property of the company last week, it may be satisfactory to you, from my personal inspection, the progress made at the Liechraeth level, preparatory to the erection, by Mr. Moesinger, of stamps and machinery necessary to begin crushing and reducing the quartz there accumulated, and which, you are aware, has yielded by several trials from 8 to 10 dwts. per ton. This yield Mr. Moesinger considers, without calculating upon the improvement in the level as we get further into the lode, will pay well in quantity; therefore, after the success of the machinery now about to be erected, which will pass 20 tons a week, no time should be lost in opening the various lodes to surface, to increase the supply of quartz and the erection of further stamps and pans to reduce 100 tons per week at least, from which we may hope to arrive at good profits for dividends. Short of the actual appearance of gold, nothing can be more favourably reported to the shareholders as to the character of the quartz now being broken down; it is most promising. Indeed, two engineers, who accompanied me at my recent visit, took from the Liechraeth level several stones to compare them with the St. David's lode, at Clogau; and, having visited both upper and lower adits of that mine, and closely inspected the quartz there, no visible difference in the stones could be found, nor could they select them again from the heap into which I requested them to cast them as a trial. In all respects the quartz and metallic character of the Liechraeth lode is identical with the rich St. David's lode of Clogau, and we may any day, in prosecuting the driving of the Liechraeth, come upon a rich shoot of gold in the quartz. Mr. Williams, who knows the country, perhaps, better than any recent, quite expects this will be the case. At the lodes of Bwlch-coch and Caerhir fair progress is being made, especially at the former, but the weather has latterly been so bad that it is a matter of surprise that any surface works have been done, or other works not absolutely under cover. I found that the Victoria Company has erected a shed opposite the Liechraeth lode, on the other side of the river, to prosecute drivings on the same, in the certainty that by following in our steps they will reap dividends."

#### THE MINERAL TREASURES OF DEVON.

It is admitted on all hands that, primarily, one of the great sources of the wonderful prosperity of this great empire is due to the extraordinary mineral wealth with which the United Kingdom abounds. Antiquarians contend that some of our present most flourishing mines were originally worked first by the Phoenicians, and afterwards by the Romans. That they were worked by the latter nation is beyond a doubt, and it is urged that this known mineral wealth of ours was one of the great inducements of the Romans to perfect the conquest of Britain. It cannot, however, be denied that it is to our almost exhaustless supply of the raw material, in the shape of coal, iron, copper, tin, and lead, that we have been induced to use all our best energies to bring these valuable products into profitable account. In the olden time, when we relied for smelting purposes almost entirely upon charcoal, our woods and forests were a main source of wealth, but when science developed the advantages of blast-furnaces, by which coal could be used for the same purpose, then coal mines began to take the position which they now hold. By coal we were enabled to smelt the mineral products of the kingdom cheaper and better than any other nation in the world. The consequent presence of abundance of iron, and thence steel, naturally led to the more extended application of these to mechanical purposes. Crude engines and machinery raised their heads only to inaugurate a new era. Each year brought fresh intelligence upon the subject, until, at length, Great Britain came to the proud position of being enabled to send her ships for the raw products of the general world, manufacture these products at a large profit, send these manufactured articles back to the places from which the raw products came, and sell them at a 50 per cent. cheaper rate than they could have been manufactured in the regions where they were grown. This has practically been the source of our great prosperity, so largely enhanced by the adoption of free-trade principles, which really sprung from the development and the appliances of our mineral resources.

In no portion of England are these resources so largely developed as in the south and west. In Devonshire and Cornwall copper, iron, tin, and lead are found in abundance, and in Wales there are not only an abundance of the same minerals, but also an inexhaustible supply of coal to enable these minerals to be brought to account. In some parts of Wales gold also had been discovered in sufficient quantities to induce capitalists to endeavour to work certain mines with almost a certainty of profit. One of the peculiar characteristics of Nature seems to be, that where a deposit of mineral wealth is found, not far off is discovered some other material, such as coal, &c., by which the first gift may be made available. This is found in all great mineral countries, not only in England but in Europe, in Australia, in Canada, and in the remote East. Finding this to be the almost universal rule, men, when they discover a source of mineral wealth, whether it be iron, copper, tin, or lead, naturally look about them for the means of turning the virgin ore into valuable metal, and in Devonshire this seems likely to be realised. For nearly a century Devonshire has had the reputation, next to Cornwall, of being the richest county for mineral wealth of any in England. Of late years promise has been given that ere long this favoured county will surpass any other in the kingdom. We have before observed that the mining works of the ancients were to be found in the districts of Devon and Cornwall. In the latter they were more evident, but in the former there were clear, tangible traces.

As the mines of Cornwall were developed, and riches poured in on the fortunate pro-

jectors, or, as they are now called, promoters, the adjacent county began to be looked upon with favour, and with what result one or two instances will suffice to show from what has been done what may be anticipated. The whole district in the neighbourhood of Tavistock at one time produced almost fabulous results, and the value of shares went far beyond even their legitimate prices. The results anticipated by these enhanced prices could not naturally be realised, because, if what brought forth value at the rate of 100 per cent. in the outlay fetched in the market more than 1000 per cent. of fictitious value over the original value of the shares, of course disappointment must be the consequence. But when we find a mine—the Great Devon Consols—upon which only 11 per share has been paid, selling at 500<sup>1</sup>/<sub>2</sub>, it is not surprising that men with capital will venture a little to obtain such gigantic results. Hence it is that in Devonshire a vast number of new schemes have sprung up, we fear, very little of prospect of success, save those which exist in the fertile and sanguine brains of the promoters. But whilst the excitement lasts, amongst a large amount of dross there is a still larger amount of sterling metal to be extracted, which will realise large fortunes to those who happen to hit upon the right spots.

In the state of uncertainty which necessarily involves almost all mining operations at present, the surest course seems to be to follow that pointed out by the ancient miners. For instance, we find of late that, within a few miles of Wells, in Somersetshire, a lead mine of apparently immense value has been discovered, which merely consists of the refuse of ancient works; and, again, in Devonshire, anyone looking from Hay Tor, down towards Newton Abbott, Torquay, and Teignmouth, can see by the works in progress, almost entirely upon the traces left by the ancients, the vast amount of wealth which is continually brought to light. Thirty years ago this district, at least the high lands, was one vast heath, used only for breeding Dartmoor sheep and raising of Dartmoor ponies, the valleys being cultivated as farms and orchards. But now in various parts one sees huge water-wheels, of 60 feet in diameter, driven by an almost infinitesimal amount of water, at work night and day; steam-engines puffing and blowing; and the population, which heretofore was purely agricultural, for the most part engaged in preparing the various metals for the market. Land, for instance, which could have been had 20 years ago for 27, or 31, an acre, being apparently nothing better than barren and stony heath, now brings almost as many hundreds. This alteration reminds one of an anecdote told of a distinguished nobleman, still alive, who at one time could hardly boast himself worth 1000<sup>1</sup>/<sub>2</sub> per annum, although possessed of a vast estate: he was lamenting his misfortune, when a shrewd companion suggested to him to try the inside of the estate. He did so, and the same estate brings him in now 40,000<sup>1</sup>/<sub>2</sub> per annum; and thirty years hence will be double the value.

The same system seems to be in course of operation in South Devon, from Hay Tor to Newton Abbott. The land is in course of being turned inside out. On passing through this district one now sees one of the huge wheels referred to; next a high shaft, which a countryman will tell you is the arsenic shaft. The sound of arsenic rather dampens your courage, but you persevere in your course, and you come upon a busy scene, such as we are told exists in Australia. Men, women, and children seem to be everlasting making mud puddings. On a closer examination you find that the huge wheel, which you have seen some distance off, sets at work a series of stamps, which seem to be working in vain upon hard stones, covered with water. Yet these stones are tin ore. The stamps crush the hard stones, or, as they would be called in Australia, quartz, into the finest powder, which, mixed with water, passes away in the form of liquid mud. This mud is washed again and again some dozen times over, until the mud has been washed away, and the tin ore remains, but still with a considerable amount of dross, in the shape of earthy matter. This is then put into a sort of devil's furnace, or oven, as it is called, and baked, and then is washed again and again, until nothing but the virgin ore remains in the shape of what is called black tin, which is of the value of from 65<sup>1</sup>/<sub>2</sub> to 70<sup>1</sup>/<sub>2</sub> per ton. But this is not all; after the baking the refuse of the washing is found to contain a large amount of precipitate of copper, and old pieces of iron are thrown into it, from which the copper deposit in a pure state can easily be detached, which sells at from 70<sup>1</sup>/<sub>2</sub> to 80<sup>1</sup>/<sub>2</sub> per ton. We have given this description from an inspection of the Atlas Mine, belonging to the Atlas Mining and Smelting Company (Limited), which for completeness as a working mine is not surpassed in Devon, and which for richness promises to realise far more than its discoverers anticipated. To show the wealth of the district, we were informed that the mine was originally opened for the purpose of working the iron ore, some of the richest in the kingdom, but that the evidence of the presence of tin in large quantities induced the proprietor to work that first. This is the only one of the many sources of wealth that are almost daily being opened up in this rich, but hitherto, comparatively speaking, neglected district.—*Observer*.

GOLD IN IRELAND.—An important and valuable discovery of gold at Crossmolina, in the county of Mayo, is reported. It is stated that as two men, in the employ of Mr. G. H. Jackson, of Fortland, were cutting through a piece of ground they met with a solid lump of gold, weighing 6 lbs. 2 ozs., at only 10 feet from the surface. When the discovery was made the nugget was shown to a man who had had great experience in the mines of California, and he at once recognised it as gold of the best quality. The discovery of other nuggets, of equal richness, followed immediately upon the first, and Mr. Jackson was at once communicated with. No time was lost in having the land properly explored, and the consequence has been that Mr. Jackson is selling the ground along the river and near where the gold was found at 2s. 6d. per foot, more than 200 men being already at work, and many nuggets of the best gold collected. Much interest is felt in the neighbourhood, and applications have been made for the purchase of Mr. Jackson's entire interest.

GOLD IN WALES.—Gold has been found on the surface of a lode in the south part of Ffridd-gaer, Blaenwern-mynach. Capt. Owen Evans, of the Cefncoch Mine, is of opinion that when the lode has been driven into it will yield a considerable quantity. There are other lodes in this property which have not yet been tried. These are now in the hands of Messrs. Roberts, Griffiths, and Lewis, of the Gwannor Works, Carmarthen.

DISCOVERY OF GOLD AT THE CAPE OF GOOD HOPE.—Gold has been found upon the farm of Mr. Mostert. The gold has been analysed by Mr. Schmitzlerow, chemist, and the *Argus* is assured by the "California gold digger

but poor for tin. We are also stopping the lode to the east of the winze, which is looking very much better, and promising some good work for tin. Our tribute pitches are without alteration.

**CWMBREANE.**—Jan. 1: The lode in the shaft below the 80 is producing 15 cwt. per fathom; the 80 south 5 cwt. per fm. The rise in back of the 10 is worth 6 cwt. per fathom. The stopes in bottom of the same is worth 6 cwt. per fm. Floyd's slope is worth 1/2 ton per fm. No alteration in any other part of the mine. We delivered on the 26th ult., to Messrs. Sims, Williams, and Co., 20 tons of lead, at 12/- 9s. per ton.

**CWMHEISIAN (Gold).**—Capt. Williams, Dec. 29: Waterfall Lode: Four men have driven out his lode 5 ft. 6 in.; the ground is easier for driving. No other change to mention.—East Mine: The new shaft being driven by six miners and two labourers, sinking by 3 ft.; the water increases, and the ground harder for boring.

**DEVON NEW COPPER.**—P. Hawke, Dec. 31: The progress in driving the cross-cut east, in the 100, is somewhat slow, in consequence of the porous nature of the ground as we approach the productive part of the lode; the product from this point at present being spar, capel, and mundic, spotted with yellow copper ore. In sinking the winze below the 88, the lode shows a most splendid appearance, the component parts consisting of quartz, spar-spar, and mundic, with rich yellow copper ore intermixed. Water again accumulates in the bottom of the winze, which affords sufficient proof that the productive part of the lode in the cross-cut east, in the 100, yet remains to be reached. On the leaden east, in the 100, being struck into, the water will at once percolate through to the bottom level. Having fixed the necessary gear to get the large axle (14 tons weight) belonging to the 60-foot water-wheel on the pit, and in its place on the chains, I am pleased to state that from the progress made we expect the axle will be lodged in its place this evening, when fixing the arms, &c., will be proceeded with in regular succession. The puddling of the reservoir, including the sides and bottom, is nearly completed.

**EAST BIRONFLOYD.**—C. Williams, Dec. 30: The lode in the stopes, west of engine-shaft, is from 8 to 9 feet wide, consisting of slate, spar, and silver-lead ore, yielding of the latter from 22 to 23 cwt. per fathom. The lode in the 10, east of shaft, is 31 feet wide, consisting of gossan, slate, slate, spar, and ore, yielding of the latter 22 cwt. per fathom. We have a very good lode in this end, forming into one great body going east. The engine-shaft is going down rapidly, the ground being easy for progress. The dressing is being carried on regularly, and the ore is turning out quite equal to expectation. The slime machinery will be completed shortly, and everything in full work. All the surface work is going on well, and the machinery in good order.

**EAST CARDON.**—Jas. Saccosse, Dec. 31: Cannister Lode: The 70 west is worth 35/- per fm.; 70 east, 45/-; 60 east, 20/-; 50 east, full 55/- per fm.—New Lode: The 70 west is worth 30/- per fm. In the 70 east both parts are worth 20/- per fm. The 60 east is worth 20/- per fathom. The winze sinking in bottom of the 60 is worth 35/- per fathom. No other change.

**EAST CARN BREA.**—Thos. Givens, Jan. 1: In the 80 west the middle lode is yielding 2 tons of ore per fm. In the 50 west the new lode is yielding 1 ton of ore per fathom. In the 50 west the south lode is yielding 1 ton of ore per fm. In the western shaft the lode is yielding 1 ton of ore per fm.

**EAST CLOGAU (Gold).**—K. Roberts, Dec. 27: In the past week we have driven No. 1 level on St. David's lode 5 ft. 6 in.; there is no change of importance in the character of the lode. No. 2 level, St. David's lode, has been driven 6 ft. 8 in., this week; the character of the ground at present is rather hard, but appears to be improving a little; the lode, which has been small, is enlarging, and assumes a more promising appearance. In No. 2 level, on St. James's lode, our progress in driving is 4 ft. 6 in.; the lode is without alteration, and is much the same in character as it has been for several weeks, composed of quartz and spots of copper, with particles of visible gold. According to Mr. Wright's instructions, I have put four men to drive No. 1 level on St. James's lode, the former party having met with a cross branch in driving this level, which has disordered the lode; I expect, after driving a few fathoms more, to have the lode again. I also put two men to costean for St. James's lode, say 30 to 40 fms., lower down the mountain than the present. In No. 1 level, on St. John's lode, the lode is large and well defined throughout, containing sulphur of copper, iron pyrites, quartz of a hard and compact nature, and highly ferruginous; a more kindly lode is seldom seen, and I should add its development must sooner or later produce satisfactory results.

**EAST GUNNIS LAKE AND SOUTH BEDFORD.**—Wm. G. Gard, Jan. 1: On again taking down the lode in the 86 end we find the lode is still worth 4 tons per fm. The several other points of the mine are without alteration.

**EAST ROSEWARNE.**—J. James, Dec. 27: There has been but little done at the 65 during the week; the men have been casing and dividing the shaft. In course of next week we shall open on the lode, when I will report its value. The 55 east is much as last reported. In the 55 west the lode is from 14 to 18 in. wide, worth 30/- per fathom. The stopes over this level is worth 25/- per fm. There is no change to notice in any other of our operations. We sampled on Tuesday last (computed) 115 tons of good quality ore.

**EAST TRESKERBY.**—John Nascarrow, Dec. 27: The ground in the 55 east is very favourable for ore, but is not speedy for driving; the lode presents just the same appearance as last week, and is letting out plenty of water. In the 40 east very little lode has been taken down; there is, therefore, no change to report on. The 40 west improves in appearance; in each of these places, as well as the 40 north, every effort is made to get on as fast as possible.

**EAST WHEAL GRENVILLE.**—G. R. Odgers, W. Bennetts, Dec. 27: The engine-shaft to sink below the 55, by 12 men, at 30/- per fm.; lode from 2 1/2 to 3 ft. wide, composed of quartz and peach, with ore and tin—a kindly lode; this lode is partaking all the characteristics of the lode at West Basset, before it made the ore. The 55 east, to four men, at 3/- 10s. per fm.; lode 18 in. wide, and producing some good work for tin. The 55 west, to four men, at 7/- per fathom; lode 18 in. wide, producing some good work for tin; the lode is 2 ft. wide, and producing some good work for tin. The 45 east, to four men, at 5/- 10s. per fm.; lode 20 in. wide, producing some good work for tin, worth 6/- per fm. Two stopes in back of the 45 west, to six men, at 12/- 10s. per fm.; lode worth 10/- per fm. The stopes above the 35 east, to four men, at 27/- 5s. per fm.; lode worth 5/- per fm. for tin.—New Lode: The 45, west of cross-cut, to six men, at 7/- per fm.; the lode at present is split into branches, but which we will soon make a junction again, when we expect an improvement, because they are producing some good tin.

—G. R. Odgers, Wm. Bennetts, Dec. 31: We see no very material alteration in this mine since our advice of Saturday. We find some good yellow ore in the 45 east.

**EAST WHEAL RUSSELL.**—J. Goldsworthy, Dec. 31: Homersham's Shaft: There has been nothing done towards sinking since last reported. The shaftmen have been engaged on other work. In the 120 cross-cut north the capel part of the lode is not as yet cut; throughout the capel contains a little grey copper ore. In the 120 east, on the south part of the lode, the lode is 2 ft. wide, composed of capel, quartz, prian, and good stones of yellow copper ore. In the 110 east, and east of Soper's cross-cut, on the south part of the lode, the lode is 2 ft. wide—poor. In the 110 east, and west of Soper's cross-cut, the lode is 2 ft. wide, composed of capel, quartz, prian, and producing saving work. John's slope, in the back of the 110, is worth 25/- per fm. In the winze sinking in bottom of the 110, east of Fewin's cross-cut, on the north part of the lode, the part of the lode taken down will produce 1 ton of good copper ore per fm., with a part standing to the north. In the 88, west of Hitchins's engine-shaft, the lode is 2 ft. wide, of a kindly appearance, and producing saving work. No other change throughout the mine to notice since last reported.

—J. Richards, Jan. 1: Homersham's shaft is in regular course of sinking below the 120 fm. level in favourable ground. In Maynard's cross-cut north, at the 120 fathom level, the capel part of the lode is being cut through, and contains some good spots of gray ore. In the 120 fm. level east, on the south part of the lode, the lode is 2 feet wide, consisting of quartz, capel, prian, and a small proportion of copper ore. In the 110 fm. level east, and east of Soper's cross-cut, on the south part of the lode, the lode is 2 feet wide, and unproductive. In the 110 fm. level east, west of Soper's cross-cut, on the south part of the lode, the lode is 2 feet wide, composed of quartz, capel, prian, and saving work for copper ore. The lode in John's slope, in the back of the 110 fathom level, east of Fewin's cross-cut, is 2 ft. wide, composed of capel, quartz, prian, and ore, worth 1 ton per fathom. The 110 fm. level east of Fewin's cross-cut, the lode, or part thereof being carried, is 2 feet wide, composed of capel, quartz, prian, and ore, worth 1 ton per fathom. In the 110 fm. level east the lode is small (1 foot wide) and without ore. In the 88 fm. level east the lode is 2 1/2 feet wide, composed of capel, quartz, and rich stones of copper ore. In both the 65 and 45 fm. levels east the drivages are by the side of the lode. In the 88 fm. level, west of Hitchins's engine-shaft, the lode is 2 feet wide, consisting of mundic, capel, quartz, prian, and a little saving work for copper ore.

—FRANK MILLIS.—J. P. Nicholls, M. Cornish, Dec. 31: The engine-shaft is down about 6 1/2 fm. under the 84 fm. level; the branch or dropper, to which we have before referred, owing to its declination, has gone out of the shaft to the west, carrying with it good stones of lead ore; the ground maintains a very favourable character. In the cross-cut east from the 72 north, on the west lode, we have not yet reached the east wall, but the part of the lode we are passing through is hard, consisting of white iron, quartz, mundic, and lead ore, but not enough of the latter to value at present. The 72 north, on the west branch, is disordered by a slide, and the end consequently poor. The 60 north, on the same branch, is still looking most promising, and yielding a small quantity of lead ore. Since intersecting the west lode, in the 60 north, we have driven on its course 1 fm. north and 1 fm. south from the cross-cut: it is producing a small quantity of lead ore, and from its appearance we anticipate an early improvement. The stopes in the back of the 72, on the west branch, will yield 1/2 of a ton of lead ore per fathom. There is no change in the tribute department, or any other part of the mine, worthy of remark.

—G. Rowe, Dec. 27: There is no change in the appearance of the lode in either point of operations during the past week. We calculate to sample on the next 90 tons of copper ore.

—GOGINAN.—Dec. 30: The lode in the 100, west of Gilberthon's shaft, is 5 feet wide, a strong and kindly lode, intermixed throughout with spar and blonde, and a little ore at times; ground much harder. The lode in the winze sinking below this level, east of shaft, is 4 feet wide, yielding good saving work. We have two pitches over this level, east of Taylor's shaft, yielding on an average 9 cwt. of lead ore per fm. The lode in the 80 is from 3 to 4 feet wide, looking promising, and yielding good saving work. The pitches over the 60, three in number, are producing on an average 10 cwt. of lead ore per fm. At Level Newydd we are making good progress in the new shaft below the 80 fm. level. The dressing, &c., are all going on regularly, and we are doing our utmost to get as much ore as we possibly can by our next sampling.

—G. Rowe, Dec. 27: In consequence of a breakage taking place last Sunday morning in our balance bob, together with the Christmas holidays, very little has been done in the bottom part of the mine for the past week, but we are happy to say that everything is now in good repair again, and the mine is in work. The lode in the 61 is still worth 15/- per fm. The lode in the cross-course shaft, sinking below the 49, is 2 ft. wide, with stones of ore. The lode in the 49, east of said shaft, is worth 12/- per fm. No lode yet intersected in either of the cross-cuts at the 43 and deep adit levels. The lode in the deep adit level, driving west of Oates's shaft, is about 2 ft. wide, producing stones of copper ore. Nothing else new since our last report.

—G. Rowe, Dec. 30: We have a large fine lode for copper in the 190 end south; if it goes on it will be an immense thing for the mine. We have sampled 100 tons of lead ore on Jan. 11, and shall have 200 tons of copper ready on Saturday.

—GREAT NORTH DOWNS.—T. Trelease, Dec. 27: In the past week we have done very little in the bottom of this mine, in consequence of the adit level having broken down in the North Downs Mine, in the Wheal Pevose part of the adit; we discovered this in the early part of the week, and it not only increased the water at the engine-shaft, but quite filled our New Brigan up to the 40. This adit will be put in good repair again in a few hours from this time, when we hope to find the water again fall off to the usual water course. The lode in the 40, driving west of Pendarvor's shaft, is 2 ft. wide, producing stones of copper ore, but not to value. The New Brigan lode in the 20, driving east of Gribble's shaft, is 15 in. wide, producing a little ore of a most promising appearance. Nothing else new throughout the mine.

—GREAT NORTH TOLGUR.—C. Henwood, Jan. 1: We have taken down the lode in the flat-road shaft to-day, and I am happy to inform you it is steadily improving as we sink, being now from 2 to 2 1/2 ft. wide, with a leader on the footwall 1 ft. wide, and on the hanging wall 6 in. wide—good work for copper ore; and, from the appearance of the lode, I think it will still further improve as depth is attained. The water is also much quicker, which, coupled with the highly kindly character of the lode, I consider favourable symptoms. We are getting on well with our surface work.

—GREAT TREGUNE CONSOLS.—W. Bichards, Jan. 1: The lode in the 92, east of Hobler's shaft, is 4 ft. wide, 2 ft. of which on the footwall is composed of flockan, friable quartz, mundic, and a little rich copper ore. The other part of the lode is capel, and compact quartz, spotted with mundic. The lode in the 92, east of Hobler's shaft, is 6 ft.

wide, containing compact and friable quartz, felspar, flockan, capel, a good deal of mundic, and good stones of rich copper ore—a very encouraging point.

—GREAT RETALLACK.—W. H. Reynolds, Dec. 30: We have fixed the lift at the 60, and are now ready to sink again. We shall also cross-cut north through the lode at this level, and open on it east and west. In the 40, east and west of engine-shaft, there is no change of importance since my last, and the blende pitches are looking much the same as for some time past.

—GREAT SOUTH TOLGUR.—John Daw, Dec. 31: Very little has been done in the past week at Lydford shaft or the 140 fathom level west, having had a slight breakage in the engine, which let in the water. In the 125 fathom level, east of new shaft, the lode is 1 1/2 ft. wide, producing a little copper ore, but not enough to value. We shall sample about 100 tons of tin-stuff to-day.

—GURLYN.—J. Curtis, W. W. Martyn, J. Rees, Jan. 1: There has been no change of importance in any of our tutwork operations, with exception of the 80 end, in Wheal Fox, where the lode is now getting clear of the influence of the cross-course, and within 5 or 6 fms. of the commencement of the productive ground through which the 20 has been passing for the last 30 fms. We have sampled 50 tons of copper ore for sale on the 8th inst. Our tribute pitches are yielding the usual quantity of tin.

—GWYDYN PARK CONSOLS.—Capt. Smyth: We have not taken down any lode in Gwydlyn Park deep adit this week; therefore, I can say no change. I have again set the adit to six men, at 8/- per fm., stent for the month. I have also set the Gwydlyn adit to drive west on the east and west lodes to six men, at 9/- 10s. for 1 fm.; lode 2 ft. wide, with mundic, peach, and spar, and at times spots of yellow copper ore; this end is letting out an increased quantity of water, which we consider to be a favourable indication. The 70 cross-cut is much harder than it has been for some time, and is letting out a large stream of water, as nearing the lode.

—HARWOOD.—J. Race, Dec. 24: I think we are close up to the vein with the cross-cut, as we have strings of spar, &c.; we are driving this end night and day; until this is through we do not work the ore above, as it will come out so much faster and cheaper when the wagons come under the work. The east end is worth 3 tons of ore per fm.; the west end, 1 1/2 ton. We have another nice pile of ore outside.

—HARWOOD.—J. Race, Dec. 25: The progress in driving the cross-cut east, in the 100, is somewhat slow, in consequence of the porous nature of the ground as we approach the productive part of the lode; the product from this point at present being spar, capel, and mundic, spotted with yellow copper ore. In sinking the winze below the 88, the lode shows a most splendid appearance, the component parts consisting of quartz, felspar, and mundic, with rich yellow copper ore intermixed. Water again accumulates in the bottom of the winze, which affords sufficient proof that the productive part of the lode in the cross-cut east, in the 100, yet remains to be reached. On the leaden east, in the 100, being struck into, the water will at once percolate through to the bottom level. Having fixed the necessary gear to get the large axle (14 tons weight) belonging to the 60-foot water-wheel on the pit, and in its place on the chains, I am pleased to state that from the progress made we expect the axle will be lodged in its place this evening, when fixing the arms, &c., will be proceeded with in regular succession. The puddling of the reservoir, including the sides and bottom, is nearly completed.

—HARWOOD.—J. Race, Dec. 26: The lode in the 80 west is worth 3 tons of ore per fm.; the 80 east, 20/- per fm. In the 70 east both parts are worth 20/- per fm. The 60 east is worth 20/- per fathom. The winze sinking in bottom of the 60 is worth 35/- per fathom. No other change.

—HARWOOD.—J. Race, Dec. 27: I think we are close up to the vein with the cross-cut, as we have strings of spar, &c.; we are driving this end night and day; until this is through we do not work the ore above, as it will come out so much faster and cheaper when the wagons come under the work. The east end is worth 3 tons of ore per fm.; the west end, 1 1/2 ton. We have another nice pile of ore outside.

—HARWOOD.—J. Race, Dec. 28: The lode in the 80 west is worth 3 tons of ore per fm.; the 80 east, 20/- per fm. In the 70 east both parts are worth 20/- per fm. The 60 east is worth 20/- per fathom. The winze sinking in bottom of the 60 is worth 35/- per fathom. No other change.

—HARWOOD.—J. Race, Dec. 29: The lode in the 80 west is worth 3 tons of ore per fm.; the 80 east, 20/- per fm. In the 70 east both parts are worth 20/- per fm. The 60 east is worth 20/- per fathom. The winze sinking in bottom of the 60 is worth 35/- per fathom. No other change.

—HARWOOD.—J. Race, Dec. 30: The lode in the 80 west is worth 3 tons of ore per fm.; the 80 east, 20/- per fm. In the 70 east both parts are worth 20/- per fm. The 60 east is worth 20/- per fathom. The winze sinking in bottom of the 60 is worth 35/- per fathom. No other change.

—HARWOOD.—J. Race, Dec. 31: The lode in the 80 west is worth 3 tons of ore per fm.; the 80 east, 20/- per fm. In the 70 east both parts are worth 20/- per fm. The 60 east is worth 20/- per fathom. The winze sinking in bottom of the 60 is worth 35/- per fathom. No other change.

—HARWOOD.—J. Race, Dec. 32: The lode in the 80 west is worth 3 tons of ore per fm.; the 80 east, 20/- per fm. In the 70 east both parts are worth 20/- per fm. The 60 east is worth 20/- per fathom. The winze sinking in bottom of the 60 is worth 35/- per fathom. No other change.

—HARWOOD.—J. Race, Dec. 33: The lode in the 80 west is worth 3 tons of ore per fm.; the 80 east, 20/- per fm. In the 70 east both parts are worth 20/- per fm. The 60 east is worth 20/- per fathom. The winze sinking in bottom of the 60 is worth 35/- per fathom. No other change.

—HARWOOD.—J. Race, Dec. 34: The lode in the 80 west is worth 3 tons of ore per fm.; the 80 east, 20/- per fm. In the 70 east both parts are worth 20/- per fm. The 60 east is worth 20/- per fathom. The winze sinking in bottom of the 60 is worth 35/- per fathom. No other change.

—HARWOOD.—J. Race, Dec. 35: The lode in the 80 west is worth 3 tons of ore per fm.; the 80 east, 20/- per fm. In the 70 east both parts are worth 20/- per fm. The 60 east is worth 20/- per fathom. The winze sinking in bottom of the 60 is worth 35/- per fathom. No other change.

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the mine, and, secondly, to prove the lode above that level. The prospects of this lode alone are most cheering, and I believe the results at a deeper level will be good and permanent; it promises to produce large quantities of copper ore; the lode is more than holding its size, and the copper of a stronger and more prominent character, composed of bell metal and peacock ore.

ROSEWARNE CONSOLS.—T. Uren, Jas. Berryman, Dec. 31: The lode in Ellen's shaft continues to look well, worth fully 35*l.* per fathom, and likely to improve. The pitches are yielding a fair quantity of copper ore.

ROSEWARNE UNITED.—E. Cartwheel, Jan. 1: In the adit west of Pool's shaft the lode is 2 ft. wide; it contains mundic, spar, and a little copper ore. In the adit east of main adit, on Geiger's lode, it is 1 foot wide, producing gossan, and impregnated with copper ore. In the adit driving west of Dobe's shaft, on the north lode, it is 1 ft. wide, still producing rich stones of black and yellow copper ore. The new engine-shaft, on the south lode, is sunk about 9 fms.

SCORRIE CONSOLS.—J. Daniel, Dec. 30: Painter's engine-shaft is sunk to the 60, divided and cased complete for kibble to draw from that level. Shaftmen are engaged in cutting plat; when this is completed we shall immediately commence cross-cutting north of Painter's engine-shaft 34 fms.; driving by four men, at 80*l.* per fathom. The cross-cut south at this level is driven 25 fathoms from same shaft; anticipated cutting No. 1 lode in this drive, but have only met with some irregular branches, which we conclude must be the lode split up. The air at this point is bad, consequently we have suspended the driving for the present. The winze under the 45, on south lode, is sunk 7 fms.; lode for the depth from 2 to 3 feet wide, producing good stones of tin, with spots of ore, but not regular. The north cross-cut at the 30 is extended 11 fathoms from the winze-shaft, driving by three men and three boys, at 67*l.* per fathom. We have set a winze to sink under the 30, to ventilate the 45 fm. level, set to six men, at 60*l.* per fathom. We are getting on with the flat-rods for Highburrow shaft as fast as the weather will permit.

SILVER MOUNTAIN.—C. Williams, Dec. 29: We are pushing the cross-cut north towards the productive portion of the lode with all possible speed, and hope soon to be able to report having made a good discovery. I cannot observe much change in the strata since my last, with the exception of a little more water oozing from the end, which, I believe, is a good sign of a lode being near. In Blue shaft we have an excellent lode, being 12 ft. wide, consisting of slate, spar, gossan, and silver-lead ore, yielding of the latter about 26 cwt*s.* per cubic fathom. I am pleased to say that the dressing of the ore is progressing very satisfactorily.

SILVER VEIN.—E. Burn, Jan. 1: During the past week the shaftmen have made fair progress in sinking. The ground is improved, and if it continues as at present I calculate to be down to the 30 in seven weeks more; the lode continues the same as last reported. In the 20 fm. end north during the past week we have intersected No. 2 cast and west lode; it is about 1 ft. wide, composed principally of quartz. The lode in the present end is about 2 feet wide. All other points of operation are without alteration since my last report.

SMITH'S WOOD.—Wm. Hosking, Dec. 30: The engine-shaft is down 2 fms. 2 ft. below the 24 fm. level; the progress in this direction, as will be seen by my last report, has been but little within the last month, in consequence of the usual and necessary work having been in hand, such as cutting plat at the 24 fm. level, wherein to locate the stuff of deeper sinking, cutting ground for bearers and cistern, and fixing the same, carrying down main rod, dropping the sinking lift, and sundry other work, essentially necessary to secure uninterrupted progress of sinking to the next level. All this preparatory work is, however, completed, and we are now in a position to rapidly increase our depth. With regard to the lode in the bottom of the shaft, it is 3 feet wide, and of a composition that convinces me we are on the eve of opening on a lasting deposit of ore; it is beautifully defined, between regular walls, and my conviction of the similarity of this to other rich mines, and that the result will assuredly be shortly in keeping is strengthened by every foot we sink. In conclusion I would observe that the work creating the heaviest of our cost, such as machinery, &c., is already executed, and that, consequently, our future cost and energy will be devoted to underground exploration only, which, if for a short time more persevered with, I am positive, from experience of trials under similar geological circumstances, will result richly successful. Since writing my report of yesterday, the men engaged in driving down the lode to complete their bargain in the 24 fm. level west, discovered a splendid lode of copper ore, over 4 inches wide, in the bottom of the end, specimens of which I have sent to the offices of the company this day.

SORTRIDGE CONSOLS.—J. Richards, Jan. 1: In the 50, west of Mayne's cross-cut, on No. 2 south lode, the lode is 18 in. wide, of a very promising description, being composed of congenital quartz, mundic, peach, prian, and ore, worth 1*l.* ton per fm. At the ventilating shaft the cutting of plat in the 50 is completed, and the shaft is being sunk below for pump-pit, which will also be finished this week, the men will then be removed to drive a cross-cut south from the present 50 end west, there being, it is thought, more lode standing in this direction. In the 40 west, and west of Stancome's cross-cut, on the south part of the main lode, the lode is 2 feet wide, consisting of quartz, mundic, and a little ore. In the 40, west of John's cross-cut, on the south part of the main lode, the lode is 18 in. wide, and yields good stones of ore. In Gribbin's cross-cut north, in the 40 east, the ground continues favourable for progress. In the 30 west, on the main lode, the lode is 3 feet wide, composed of capel, mundic, gossan, and stones of rich yellow and black oxide of copper ore. In Stancome's rasc, in the back of the 20, east of Jenkins's rasc, the lode is 18 in. wide, and worth 1 ton of ore per fm.

SOUTHERN CARADON WHEAL HOOPER.—Wm. C. Cock, Dec. 27: I have re-set the 90 cross-cut north at the former price, 18*l.* per fm. The ground has become harder since my last report.

SOUTH CARN BREA.—T. Glanville, Dec. 31: In the flat-rod shaft the part of the lode sinking on is worth 30*l.* per fm.

SOUTH CRENWYR.—E. Cheshire, Dec. 30: In the 124, driving east of flat-rod shaft, the lode is 2 ft. wide, producing 1*l.* ton of copper ore, worth about 8*l.* per fm. In the 124, driving west of flat-rod shaft, the lode is 2 ft. wide, producing 7*l.* per fm. In the 105, driving west of flat-rod shaft, the lode is 2 ft. wide, producing 1*l.* ton of ore, worth 1*l.* per fm, or worth 3*l.* per fm. Our tribute pitches are without change to notice.

SOUTH DARREN.—J. Boundy: Saturday last being our monthly setting day, the following tutwork bargains were let:—The 50 to drive east from the engine-shaft by six men, at 3*l.* per fm.; the lode at this point is 4 ft. wide, producing saving work, and presents a very promising appearance; the ground here is a little more favourable for progress. To stop the back of the 50, east of shaft, by two men, at 6*l.* per fathom; lode 2 feet wide, producing saving work. The 70 to drive east of shaft by six men, at 6*l.* per fm.; the lode at this point is very wide, and is now more lode standing in this direction. In the 40 west, and west of Stancome's cross-cut, on the south part of the main lode, the lode is 2 feet wide, consisting of quartz, mundic, and a little ore. In the 40, west of John's cross-cut, on the south part of the main lode, the lode is 18 in. wide, and yields good stones of ore. In Gribbin's cross-cut north, in the 40 east, the ground continues favourable for progress. In the 30 west, on the main lode, the lode is 3 feet wide, composed of capel, mundic, gossan, and stones of rich yellow and black oxide of copper ore. In Stancome's rasc, in the back of the 20, east of Jenkins's rasc, the lode is 18 in. wide, and worth 1 ton of ore per fm.

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\* With the Journal of Dec. 20 was published a SUPPLEMENTAL SHEET, in which appears a Plan of the Walker Colliery, in explanation of the Remarks of Mr. Matthias Dunn respecting the late Explosion—the Inquest on the sufferers by the Edmund's Main Colliery Explosion—Progress of Mining on the Pacific Coast—the Mineral Resources of the Territories of the United States—Foreign Mining and Metallurgy—North of England Institute of Engineers—Meeting of Companies: West Caradon, Trevenen and Tremenehewe, Great Wheal Vor, Wheal Union, Great South Tolgus, and Amman Coal Company—Mining Photographs, &c.

\* With the Journal of December 13 we gave a SUPPLEMENT, containing Papers on the Processes of Mining on the Pacific Coast—the Geology of Australia—Foreign Mining and Metallurgy—Ancient Geology—Mining Photographs—Meetings of Companies: the Australian, St. Just United, Holm bush, West Par, Caradon Consols, and the Lower Tadwra—The Copper and Alkali Trades—Gold in New Zealand—Oxygen Gas—Noxious Vapours from Alkali Works—Lining Puddling Furnaces—Safety Fuse—New Lubricating Grease from Coal Tar—Icelandic Fuel—A Steel Merchant Ship, &c., &c.

THE ANNUAL REVIEW OF MINING.—We hope to publish Mr. Watson's Nineteenth Annual Review during next week, when copies can be obtained either at Messrs. Watson and Cuell's, St. Michael's-alley, Cornhill, or at the Mining Journal Office, 26, Fleet-street, price 1s.

## The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, Jan. 2, 1863.

COPPER.	£ s. d.	BRASS.	Per lb.
Best selected... p. ton	101 0 0	Sheets	104d.
Tough cake	98 0 0	Wire	94d. 10d.
Tile	98 0 0	Tubes	114d. 12½d.
Burn Burns	98 0 0		
Copalo	—	FOREIGN STEEL.	Per Ton.
Copper wire ... p. lb.	0 1 1½	Swedish, in kgs (rolled)	15 0 15 10 0
ditto tubes	0 1 1	" (chamfered)	15 10 16 0
Shipping & boats p. ton	105 0 0	Ditto, in faggots	16 10 18 0
Bottoms	110 0 0	English, Spring	18 0 23 0
Old (Exchange)	91 0 0	Bassemmer, Engineers Tool	44 0
IRON.	Per Ton.	" Spindle	30 0 0
Bars, Welsh, in London	6 10 0	QUICKSILVER	7 0 0 p. bottle
Ditto, to arrive	6 10 0 6 15 0	SPELTER.	Per Ton.
Nail rods	7 0 0	Foreign	18 0
" Stafford, in London	7 6 7 10 0	To arrive	18 0 0 18 5 0
Bars ditto	7 5 0 8 0 0	SILVER.	
Hoops ditto	8 5 0 8 10 0	In sheets	23 5 0 23 10 0
Sheets, single	9 0 0 9 10 0	TIN.	
Pig, No. 1, in Wales	8 0 0 4 0 0	English, blocks	115 0 0
Refined metal, ditto	4 0 0 5 0 0	Ditto, Bars (in barrels)	116 0 0
Bars, common, ditto	5 10 0	Ditto, Refined	120 0 0
Ditto, merchant, in Tres	6 10 0	Banca	119 0 0
Ditto, railway, in Wales	5 12 6 5 15 0	Straits	117 0 0 nom.
Ditto, Swed. in London	11 10 0 12 10 0	TIN-PLATES.	*
To arrive	11 15 0 12 10 0	IC Charcoal, 1st qua, p. bx	1 8 0 1 8 6
Pig, No. 1, in Clyde	12 5 6 2 18 0	IC Ditto 1st quality	1 14 0 1 14 6
Ditto, f. o. b. in Tres	2 8 0 2 10 0	IC Ditto 2d quality	1 4 6 1 6 0
Ditto, forge, f. o. b. in Tres	2 5 0	IC Ditto 2d quality	1 10 0 1 12 6
Staffordshire Forge Pig.	—	IC Coke	1 2 6 1 3 0
Welsh Forge Pig.	—	IX Ditto	1 8 6 1 9 0
LEAD.		Canadian plates	p. ton 12 10 0 13 0
English Pig	21 5 0 22 0 0	In London	20s. less at the works.
Ditto sheet	21 15 0	Yellow Metal Sheathing	p. lb. 8½d. 9½d.
Ditto red lead	22 0 0	Sheets	p. lb. 8d. 9½d.
Ditto white	28 10 0 30 0 0	Indian Charcoal Pigs	6 12 6 6 15 0
Ditto patent shot	23 0 0	In London	—
Spanish	21 0 0		

\* At the works, 1s. to 1s. 6d. per box less.

REMARKS.—There is a moderate amount of business transacting in the Metal Market; prices remain for the most part without alteration. Sellers and holders refrain from pressing sales, and are content to wait for an improved demand. Just at present, however, it is difficult to indicate any quarter from which this may reasonably be expected to come. Almost the only hypothesis upon which expectations of improvement can be based is that the past year having been such a very dull one, in the ordinary course of things, the present will probably show some change for the better.

COPPER.—The market for English descriptions is extremely quiet; manufactured can be purchased at 10½d. cake, tile, and ingot are also somewhat below fixed rates. Foreign copper still shows a rather drooping tendency; Burn, 98½; Kapunda, 99½; Chili, 88½; Spanish, nothing doing.

YELLOW METAL remains extremely dull of sale, selling at 8d. per lb., one parcel is reported as having changed hands as low as 7½d. per lb.

IRON.—Railway bars continue quiet, at the reduced quotations. Merchant bars only in limited demand, at 5½. 15s. at the works, and 6½. 10s. delivered f. o. b. in London; orders just now can be supplied from stock at the latter figure. Staffordshire makes in good steady request, sellers realising full rates. Sheet and plate rollers especially busy. Swedish bars have not been much enquired for of late; quotations steady at 11½. 15s. ex ship, 11½. 10s. from the warehouse, for good Indian specifications. Scotch pigs: From the statistics of the last few years we glean the following remarkable results.—The stock has increased from 100,000 tons in 1856, to 700,000 tons in 1862, while the shipments have only increased about 65,000 tons; yet, strange to say, notwithstanding the superabundance of supply over demand, the price is at the present time above the average of the years since 1856. This can only be attributed to the vast amount of speculation in the pig-iron market. Closing quotations, 5½s. 3d., mixed numbers.

SPELTER.—There is comparatively little or no business doing in this metal. Holders still quote 18½., but buyers are very difficult to meet with. During last month the stocks held in London have decreased about 330 tons. Stocks on the 31st December, 5530 tons against 6040 tons at the corresponding period of last year.—ZINC firm, at 23½. 5s.

LEAD.—In English pig there is rather more enquiry for China. Common bands now quoted 21½. 5s. to 21½. 7s. 6d.; WB, 22½. For sheets, shot, and pipe, there is only a very dull market; bars in fair request; Spanish pig, 21½. very quiet.

TIN.—English purchasable at 20s. to 30s. per ton below fixed rates; Foreign remains quiet at 11½. Banca, 11½. nom.

TIN-PLATES.—Steady at 22s. 6d. IC coke. A good demand exists for shipment to America and the Continent.

STEEL.—For Swedish kegs there is a little better enquiry. Holders firm at 15½. 10s. to 16½. ordinary brands, faggots, 17½. EB kegs, 18½. free into lighter.

BOSTON, DEC. 15.—Picton coal is firm at \$7 50 c. to \$8 per ton, with moderate sales. In Sydney nothing further has been done, and prices are nominal. Anthracite has been in steady retail demand at \$9 per ton. Scotch pig-iron continues to be held firm, with sales in lots as wanted, at \$36 to \$37 50 c. per ton, cash and six months, for No. 1; and American pig ranges from \$36 to \$37 per ton, cash and six months. Bar iron is firm, and sells in lots at full prices. Sheet iron is held at 16½ c. to 17½ c. per lb. for Russian.

NEW YORK, DEC. 17.—The demand for foreign coal is more active. House coals are firm and saleable, while steam and gas are heavy, and slow sales. Sales include 100 tons of Liverpool house Coal, at \$9; 100 tons of Picton, from yard, at \$10; 750 tons of West Hartley, at \$9; 140 tons of New Petton gas, at \$8; 150 tons of Scotch slate, at \$7 50 c.; 300 tons of ditto spinth, at \$6, cash; 350 tons of Picton, on private terms; 200 tons of Ince Hall Canal, ex ship, at \$10; and 620 tons of Laird's Lancashire, at \$7 25 c., cash. The enquiry for all kinds of iron is quite light, but prices are quite firm; sales of 150 tons of Scotch pig, in lots, at \$33 50 c., cash. American pig is firm at \$32 to \$34 for best Nos. 2 and 1. In old rails, a sale of 100 tons have been made, at \$40, cash, delivered at New London.

THE TIN TRADE.—Mr. N. Breebaart (Goll and Co., Amsterdam), under date Dec. 31, writes:—Nothing of importance has happened during the course of this month. Some transactions at the opening gave rise to a slight improvement, 68½d. was paid, and a little later some warrants changed hands at 69½d. Towards the middle of the month the demand, however, entirely subsided, transactions having been limited, with few exceptions, to speculative purchases, the same as in October.

1862. 1861. 1860.  
Stock of Banca tin on warrants on Nov. 29.... Slabs 73,690 62,028 69,964  
Deliveries in Dec. .... 3,950 8,057 4,750

Stock on warrants Dec. 24 .... 69,740 53,971 65,214  
Stock in the hands of Trading Society, for annual sale 61,928 73,236 78,678  
Our expectations expressed in November have, therefore, been realized. The reduction of shipments from the Straits, and of the stock in warehouse and at sea of Banca, are facts which certainly may produce effects at a certain period, but which do not appear to us to warrant the belief of a permanent improvement for the present. In order to render this influence efficacious a complete favourable change in the state of affairs would in the first place be necessary. The statistics confirm that the deliveries fall considerably short of what they were in the year before, and that the decrease in the arrivals for the next sale, compared to 1861 and 1860, is fully counterbalanced by the excess of stock on warrants. Admitting also that the shipments from Singapore and Penang for Europe have been next to nothing latterly, it must not be forgotten that the stock in London is actually larger than it has been for a number of years, and

that it would not be at all surprising if China and Japan (overstocked as those countries must be by the considerable quantities which have been consigned) should ship to Europe what they cannot employ themselves.

The following are the deliveries of Banca tin since the public sales:—

	1862.	1861.	1860.
July	Slabs 31,400	23,342	38,836
August	30,637	46,728	30,000
September	12,119	12,261	12,430
October	12,232	7,067	6,720
November	7,265	12,655	11,288
December	3,950	8,057	4,750
Total	Slabs 100,793	116,110	103,824

The Billiton Company have announced that to begin with 1863 they will sell the produce of their mines publicly at Batavia, and provisionally they have fixed for this purpose the months of April, August, and December. The produce of those mines may be estimated at present at about 1600 slabs per month on an average, but it is expected that within a couple of years the quantity will become considerably larger.

### THE SCOTCH IRON TRADE—ANNUAL REPORT.

Scotland shows a marvellous progress in the development of the Iron Trade. The steam-engine, the hot blast, and the railway system have, doubtless, contributed to this prominent feature of our national prosperity; and it is to be recorded for the information of the world, that in less than half a century the production of pig-iron has increased more than one hundredfold. Seven years ago, the stock of pig-iron in Scotland did not exceed 100,000 tons; now our wealth in this the most useful of metals has accumulated to at least 220,000 tons, which, calculated at the average price for the year in sterling money, represents £1,000,000, thus approximating to the amount of gold bullion held by the Scotch banks; and it may be reasonably expected that the combined, steady, and well-directed efforts of producers and capitalists will, in the course of two years, achieve the grand result of a stock of one million of tons. The quantity of pig-iron produced in the year just closing is computed at 1,080,000 tons, which, valued at this year's average price, represents £2,850,000 sterling. The exports, foreign and coastwise, combined with the local consumption, amounted to 970,000 tons. The stocks, therefore, show an increase of 110,000 tons when compared with the same period of last year. It may arrest attention that, whilst the stocks have been steadily increasing, the price has risen from 49s. to 57s. 6d. per ton. This has, no doubt, been owing to speculative operations in the article, based upon a sanguine belief in an early settlement of the American war; but the advance arising from this expectation has been very shortly maintained. The lowest price was 48s., in January, and the average for the year is 52s. 10d. per ton.

The malleable ironworks, the foundries, and the shipbuilding yards on the Clyde are generally well employed; and, should the belief in the superior advantages and impregnable character of the iron-clad ship gain ground, it may reasonably be hoped that those great branches of national industry will continue to flourish.

Since the Irish famine, which the great wealth and greater charity of this country encountered and overcame, there has been nothing approaching the enormous suffering and destitution arising from the cotton famine in Lancashire. But it is a matter of unspeakable satisfaction that the resources of this great country, including very particularly those derived from the successful development of the iron manufacture, are adequately alleviating this unprecedented distress.

The hope may, therefore, be confidently entertained that the Iron Trade, as hitherto, will continue to increase, and that, whilst adding to the wealth of Scotland, it will contribute to the civilisation and prosperity of the world.

### LIST OF FURNACES IN AND OUT OF BLAST, JAN. 1, 1863.

Proprietors' Names. Works. In. Out. Total.

William Baird and Co.	Gartsherris	14	2	16
ditto	Eglinton	8	—	8
ditto	Blair	2	3	5
ditto	Lugar	—	4	4
ditto	Muirkirk	3	—	3
Merry and Cunningham	Clengarnock	8	1	9
ditto	Ardeer	4	—	4
Carnbroe	Carnbroe	4	2	6
Coltness Iron Company	Coltness	10	—	10
Dalmellington Iron Company	Dalmellington	4	1	5
Monkland Iron and Steel Company	Monkland	9	—	9
Robert Addie	Langloan	6	—	6
Wilsons and Co.	Summerlee	8	—	8
John Wilson's Trustees	Dundivyan	3	5	8
Coin Dunlop and Co.	Clyde and Quarter	7	2	9
William Dixon	Govan	3	2	5
ditto	Calder	6	2	8
Robert Stewart	Omon	2	2	4
Shotts Iron Company	Shotts	4	1	5
ditto	Castleshill	—	3	3
Robert Bell	Portland	4	1	5
Portland Iron Company	Kinnell	4	—	4
Lochgelly Iron Company	Lochgelly	1	3	4
A. Christie and				

at their respective mines. The chief feature of their accounts, besides their extreme simplicity and clearness, is the fact that they show a balance of cash in hand of upwards of 15,000*l.*, which is more than sufficient to pay the dividend recommended by the directors. The following are the sources from which the last half-year's earnings have been derived—viz., 10,629*l.* 1*s.* from Knockmahon Copper Mines, 3374*l.* 7*s.* 9*d.* from Laganure Lead Mines, 699*l.* 12*s.* 9*d.* from Ballycorus Lead Smelting Works, and 2073*l.* 9*s.* 6*d.* from Slievardagh Collieries. The company's expenditure includes—1084*l.* 6*s.* 9*d.* on Keeldrum Mines, 398*l.* 15*s.* 7*d.* on Lisnacan Colliery, 538*l.* 7*s.* 7*d.* for interest, 450*l.* 9*s.* 6*d.* for income tax, 65*l.* 18*s.* 4*d.* for bad debts; leaving a net profit of 14,290*l.* 1*s.* 4*d.*, or 3090*l.* 1*s.* 4*d.* in excess of amount to be absorbed by the dividend. We have also before us the statement of accounts of the Carysfort Mining Company, made up to Oct. 31 last. In consequence of the repeated changes, not only of directors and managers, but also in the system of prosecuting the operations on the mines, which now begin to promise better for the future, this company's mining property may still be considered in its infancy, although upwards of 21,500*t.* has been spent upon it to this time (including 8000*t.* paid for the property). However, as the mines are decidedly in the best mining district of Ireland (the county Wicklow), and the company have yet more than 20,000*t.* at command by means of calls on cash, and securities now on hand, to the amount of 3275*l.* 13*s.* 7*d.*, there is every reasonable prospect that it will yet take a place among the dividend-paying mines, provided the proprietors are fortunate enough to have their affairs conducted with well-practised skill, and a due regard to economy, which is especially necessary where much has yet to be done ere a profitable state of working can be expected.

By economy we do not, however, mean merely an indiscriminate reduction of operations, which, on an extensive and promising mining property, would be most injudicious, but a reduction in fees and salaries, wherever it can be effected without pinching those officers who have capacity, and give their time and undivided attention to the legitimate working of the mines. The sum expended during the half-year referred to amounts to 1272*l.* 2*s.* 6*d.*, which comprises the following items—234*l.* on Ballysillogue Mine; 314*l.* 9*s.* 4*d.* on Ballintemple Lead Mine, exclusive of 360*s.* 15*d.* received for lead ore; 290*l.* 18*s.* 4*d.* on Moneyteigue Mine; 132*l.* 7*s.* 5*d.* on gold royalties; and 295*l.* 7*s.* 5*d.* for salaries, &c., including remuneration to the directors at the rate of 300*l.* per annum. As already mentioned, the returns for the half-year amounted to 360*l.* 15*s.* for lead ore sold, which may, however, have produced something more. The prospects of the stopes at Ballintemple Lead Mine are good, and it is believed that about 200 tons of lead ore are laid open in that mine. The Mining Company of Ireland shares are now dealt in ex. div., and have been freely taken at 19*l.* 15*s.* Wicklow Copper have realised a further improvement of 5*s.* per share, and are in request at 39*l.* (5*s.* paid). That these shares have continued to command a very high premium through all the difficulties consequent on the American war is, besides the large resources in copper, chiefly attributable, as in the case of the Mining Company of Ireland, to the well-deserved confidence the public place in the directors and managers of the Wicklow Copper Mining Company. Connorree shares are steady at 23*s.* General Mining Company for Ireland realised 5*l.* 5*s.* (4*s.* paid), and Carysfort, of both descriptions, were well sustained at last week's quotations. Castlewards made one quotation at 14*s.*

The limited liability company, with a capital of 40,000*l.*, in shares of 2*l.* 10*s.* each, now in course of formation for working the Tregurtha Downs and Owen Vean Consols sets, in the parishes of St. Hilary and Perranuthnoe, is progressing very favourably with its preliminary arrangements, and will be prominently brought before the public in next week's Journal. More numerous and varied testimony as to the value of the property has never been attached to any prospectus, and the circumstance of such firms as Messrs. Vivian, Grylls, Kendall, and Co.; Bolitho, Sons, and Co.; and Grylls, Hill, and Hill, in Cornwall; and Messrs. Dunsford and Ranken, in London, being amongst those officially connected with the company, should be a guarantee for success.

The following are the Government Returns of the exports of articles identified with mining, the produce and manufacture of Great Britain, for the eleven months ending Nov. 30, 1862; and also as compared with the eleven months ending Nov., 1861; extracted from the "Accounts relating to Trade and Navigation," published by the Board of Trade:—

DECLARED VALUE FOR THE ELEVEN MONTHS ENDING NOVEMBER 30.			
	1861.	1862.	INCREASE.
Coals and culm	£3,366,604	£3,462,788	£9,161,71
Hardware and cutlery	3,168,200	£3,023,752	—
Do. surgical instruments	254,602	—	—
Do. agricultural implements	396,711	3,675,065	516,865
Machinery:			
Steam-engines	£1,116,917	1,483,278	—
Other sorts	2,749,551	3,866,468	2,248,903 = 3,731,341
Total	£10,391,272	£10,860,189	—
Metals:—Iron—Pig	£ 986,344	£1,126,886	—
Bar, bolt	1,715,588	2,043,422	—
Railway	2,762,122	2,594,792	—
Wire	193,594	264,288	—
Ditto telegraphic	184,675	305,167	—
Cast	642,182	514,995	—
Hoops	779,571	936,330	—
Wrought	1,868,752 = 9,132,808	2,070,445 = 9,856,325	723,517
Steel	656,531	744,249	87,718
Copper	404,679	468,311	—
Wrought, bars, &c.	296,692	1,800,854	—
Other sorts	248,804 = 1,950,175	145,628 = 2,414,793	464,618
Brass	398,913	693,599	—
Lead—Pig	534,299	855,008	320,709
Ore, litharge	135,886	161,412	26,526
Tin—Unwrought	322,523	436,209	113,686
Tin-Plates	817,321	1,183,769	320,948
Zinc	39,680	90,464	784
Grand total	£24,048,780	£26,594,454	£2,680,801
Less decrease—Machinery	—	189,127	—
Total increase	—	£2,845,674	—

At the Redruth Ticketing, on Thursday, 3156 tons of ore were sold, realising 17,507*l.* 3*s.* The particulars of sale were:—Average standard 126*l.* 2*s.*; average produce, 6*s.*; average price per ton, 5*l.* 12*s.*; quantity fine copper, 207 tons 12*cwt.* The following are the particulars:—

Date. Tons. Standard. Produce. Price per ton. Ore copper. Dec. 4. 3645 £121 19 0 6*s.* £4 17 6 £79 16 0 11. 2273 118 7 0 7*s.* 5*d.* 5*s.* 6*d.* 81 9 0 18. 5078 126 16 0 6 4 16 0 80 15 0 24. 2393 125 16 0 6*s.* 5 3 0 81 19 0 an. 1. 3156 126 2 0 6*s.* 5 12 0 84 6 6

Compared with last week's sale the advance has been in the standard 2*s.*, and in the price per ton of ore about 2*s.* 6*d.* Compared with the corresponding sale of last month the advance has been in the standard 5*s.*, and in the price per ton of ore about 6*s.*

At the East Pool Mine meeting, on Tuesday, the accounts for the three months ending December showed a credit balance of 739*l.* 7*s.* 9*d.* A dividend of 640*l.* (5*s.* per share) was declared, and 99*l.* 7*s.* 9*d.* carried to credit of next account.

At Bedford United Mines meeting, on Dec. 24, the accounts for the three months ending Oct. showed a credit balance of 1929*l.* 9*s.* 2*d.* A dividend of 500*l.* (2*s.* 6*d.* per share) was declared, and 792*l.* 9*s.* 3*d.* carried to credit of next account. Capts. Wolferstan and Phillips reported upon the various points of operation.

At the Pendine Consols Mine meeting, on Tuesday (Mr. W. Bawden in the chair), the accounts for October and November showed a profit of 206*l.* 2*s.* 4*d.* The assets exceeded the liabilities by 1219*l.* Details in another column.

At the Great Wheal Busy meeting, on Thursday (Dr. Mathew in the chair), the accounts for the three months ending October showed a debit balance of 3760*l.* A call of 10*s.* per share was made. Details in another column.

At the Nanglais Mine meeting, on Dec. 22, the accounts showed a debit balance of 1567*l.* 18*s.* 6*d.* A call of 30*s.* per share was made. Captains J. Rowe and E. Dower report that "The costs for the present quarter will be much less than formerly, and having copper to work on our returns will considerably increase. We cannot say any more; we have 70 tons at surface, and when a market comes we can send up considerable quantities."

At the South Condurrow Mine meeting, on Dec. 23, the accounts for the four months, ending with costs for November, showed a debit balance of 556*l.* 18*s.* 5*d.* The report of the agents stated that they had been induced to recommend the removal of the plant from the north to the south lodes, because the north lodes, three in number, are (below the adit) underlying south very rapidly, and the south lodes (four in number) were about vertical. The agents recommended the engine to be fixed on the West Basset lode, near the main adit cross-course, so that by sinking on the lode they would be always nearing the north lodes, and by being near the cross-course they could very speedily intersect the lodes on either side of it, by driving on the said cross-course. They estimated that to remove the plant, and complete a new engine-shaft to the deep adit level, would cost about 700*l.* A report from Captain W. Roberts was read, which stated that, having gone to the cost of sinking the shaft 15 fms. below the 50, he thought it would be advisable to open some fathoms on the lode, east and west, before deciding on suspending operations altogether in this part of the mine; this could be done while the agents were fixing on a spot and preparing an engine-shaft further west and south. He believed the most promising part of the sets was about north from Wheal Grenville engine-shaft. A call of 2*s.* per share was made. The committee of management were re-elected.

At East Providence Mine meeting, on Dec. 22, the accounts for the three months ending October showed a debit balance of 70*l.* 18*s.* 2*d.* A call of 2*s.* per share was made. Capt. T. Urquhart reported that the total ground opened on tailwork for the three months is 26 ft. 2 ft. There are twenty-four persons employed underground and at surface, and the pitwork and machinery are in excellent order. They are carrying on the mine with all possible dispatch.

At New South Cadron Mine meeting, on Dec. 19 (Mr. W. G. Nettle in the chair), the accounts for the five months ending October showed a debit balance of 187*l.* 9*s.* 8*d.* A call of 1*s.* 6*d.* per share was made. Capt. H. Knapp reported that until within the last two months their time and money had been principally employed in executing dead work. This has been got through, and a wide field is now fairly before them for exploring and developing the lodes, with fair and reasonable chances of success.

At the Wheal Vyvyan meeting, on Dec. 22 (Mr. J. W. Johns in the chair), the accounts showed a debit balance of 166*l.* 12*s.* 6*d.* A call of 20*s.* per share was made. Capt. Hampton and Nichols reported upon the various points of operation. They have 8*s.* hands employed.

At Hingston Down Consols Mine meeting, on Dec. 4 (Rev. C. J. F. Clinton in the chair), the accounts for Sept. and October showed a credit balance of 219*l.* 16*s.* 1*d.* but the estimate of profits and expenditure before the next meeting showed a balance against the mine of 166*l.* 3*s.* 4*d.* A call of 1*s.* per share was made. Capt. T. Richards reported that the prospects of the mine were more cheering than for some months past. The next sampling will be from 390 to 390 tons, and the costs for the ensuing two months about 170*l.*

At Dolcoath Mine the sales of mineral during October were 994 tons of tin, averaging 66*s.* per ton, and realising 66,057*l.* 12*s.* 1*d.*; 181*l.* 9*s.* 6*d.* worth of copper; and 162*l.* 5*s.* worth of arsenic. The shareholders received 45*l.* per share in dividends.

The Australian Mining Association (Burra Burra Mine) half-yearly meeting took place at the offices of the company, in Adelaide, on Oct. 15. The report submitted by the directors showed that the ore raised during the half-year was 4429 tons, of an estimated produce of 22 per cent. This had been taken from the workings not extending below the 55 fm. level. The accounts of the association from Sept. 30, 1861, to March 31, 1862, have not been closed, and show that 4959 tons of ore raised during that period realised 89,210*l.* 16*s.* 1*d.*, or 112*l.* 18*s.* 10*d.* per ton, leaving a profit of 10,573*l.* 7*s.* 4*d.* This is 5*s.* 3*d.* per ton more of profit than was realised for the produce of the previous half-year, and the total profits would have been still more favourable had not the price of copper receded considerably. The credit balance of the company's profit and loss account up to the 31st of March last is 11,597*l.* 13*s.* 3*d.* To this is to be added the estimated profit of the ore raised during the past six months, which is 9233*l.* 14*s.* 7*d.*, making a total balance of profit of 20,822*l.* 7*s.* 10*d.* available for division amongst the shareholders. Out of this the directors propose to pay a dividend of 5*s.* per share on the 18th inst., which will be the fifteenth dividend. The pitches in the higher levels are, according to the captain's report, looking exceedingly well. The quantity of ore on hand at the mines on Sept. 30 was 3217 tons, in addition to between 3 and 6 tons of refined copper.

LEEDS, JAN. 1.—In Mining Shares business has been quiet during the past week, and prices continue depressed in most descriptions of stock.

WHARFEDALE LEAD MINING COMPANY (Limited).—An improvement has taken place in Craig's sump, and in the cross-cut driving north of the level forehead, both of which are producing a fair quantity of ore, and continue to improve. About 20 bings of ore are already got.—JOHN GLEDHILL AND CO.

Creditors of the Rockall Fishing, Fish Oil, and Fish Manure Company (Limited) are required to forward the particulars of their claims by the 17th inst. to Mr. Frederick Whinney, the provisional official liquidator. Vice-Chancellor Wood has charge of the case, and Tuesday, February 17, is appointed for hearing and adjudicating upon the claims.

From Chili, we learn that the silver mines of Copiapo, Chanarcillo, and Tres Puntas continue to yield an abundant product of rich metals of a high ley. Copper was recovering its former position in the market, in consequence of the rise of its value in foreign ports.

COPPER MINING IN LAKE SUPERIOR.—Calculations are beginning to be made as to the probable yield of the Lake Superior Copper Mines in 1862. The quantity of ore raised will, it is considered, show a falling off; but it is anticipated that the increased percentage will prove sufficient to compensate. The yield of ingot copper for 1862 will, probably, be slightly under 6000 tons; the Quincy, Minnesota, and Pewabic, followed by the National and Rockland Companies, supplying the whole quantity.

EAST CADRON MINING COMPANY.—In next week's Journal we shall give a detailed report of the proceedings at the meeting of adventurers, to be held at Salisbury on Wednesday next.

THE ORIGIN AND PROGRESS OF MINING IN THE CADRON AND LISKEARD DISTRICTS.—Under this title Messrs. WEBB and GEACH, of Finch-lane and the Stock Exchange, have just published a very excellent manual for shareholders in East Cornwall mines. Scarcely 50 years having elapsed since the wealth of the Cadron district began to develop itself, the district must be regarded as new in comparison with Cornish mines generally; yet it must be admitted that ample has been done to invest the locality with interest. The separate details of the several sets being prefaced and elucidated by a sketch of the mines, and a geological map of the district, it will be apparent that the work will be an invaluable book of reference, both to existing shareholders and to those who intend investing in the districts. With regard to the details themselves, they appear to have been arranged with the greatest care, and as the names of the officers, the position of the financial affairs, and the latest reports upon the mines are all given, it is difficult to conceive what further information can be desired. The entire book is well worthy of perusal.

NEW PHASE IN THE COAL TRADE—MONTHLY SALES BY AUCTION.—We are informed that some of the American coalowners have adopted the very novel idea of monthly sales by auction. The sale is made altogether unreserved, and the highest bidder will be the purchaser—no bid whatever being made by, or on behalf of, the company. Amongst the conditions of sale it is stated that "fifty cents per ton in bankable funds are to be paid at the time and place of sale, and the balance in like funds, on receiving the order for the coal, which must be called for within 10 days thereafter, and the coal taken away within 30 days from the day of sale, unless navigation is obstructed. The other conditions of sale will be substantially those hitherto acted upon in the case of sales by private contract." The conditions to be modified to meet the wants of ocean steamers, whose arrival cannot be precisely fixed, are:—

GEOLOGISTS' ASSOCIATION.—On Monday is the anniversary meeting for the election of officers, after which Mr. C. Carter Blake will read a paper on the "Fossil Animals of South America."

MANCHESTER GEOLOGICAL SOCIETY.—A meeting of members was held on Tuesday, at the Museum, Peter-street, Mr. Andrew Knowles in the chair. A paper, by Mr. J. S. Bland, "On the carboniferous rocks in the neighbourhood of Shap and Crosby Ravensworth, with a section of that series on the northern and eastern extremes of the Lake District," was read by Mr. E. W. Binney. The author of the paper enumerated, at some length, the different strata to be found in the region specified, and also gave an outline of the positions they occupied, and of the forces which had been at work to produce the phenomena observable.—On the proposition of Mr. Atkinson, seconded by Mr.

## THE CROWAN AND WENDRON TIN AND COPPER MINING COMPANY (LIMITED).

Capital £3000, in shares of £1 each. 2s. 6d. per share to be paid on allotment, and the remainder in calls not exceeding 2s. 6d. per share, at intervals of not less than three months.

DIRECTORS.

THOMAS SCHOLEFIELD, Esq., the Ivy House, Leeds.  
SAMUEL HEY, Esq., Albion-place, Leeds.  
JOHN BRAY, Esq., Hill House, Scarcroft, near Leeds.  
JOHN BINGLEY, Esq., Headingley, Leeds.  
BENJAMIN IDLE, Esq., Meadow-road, Leeds.  
JOHN BROWNBILL, Esq., Brigstow, Leeds.  
SAMUEL IDLE, Esq., Dewsberry-road, Leeds.  
BANKERS.—Messrs. William Williams Brown and Co., Leeds.  
SOLICITOR.—John Blackburn, Leeds.

OFFICES OF THE COMPANY.—63, ALBION STREET, LEEDS.

This company has been formed for the purpose of working certain mining ground situated in the parishes of Crowan and Wendron, in the county of Cornwall, which has already been opened to a depth of 50 fms., with sufficient engine power to work it.

On the north of it are the celebrated mines of Camborne, on the south the ancient tin workings of Wendron, on the west the far-famed Abraham and Cremer Mines, and the eastern boundary is near Baswain and Grylls and Wendron Consols Mines. The strata in each of these mines are identical with those found in this district.

The master copper lode in this seat is a continuation of the same lode which proved so rich in Cremer; the same line of the lodes from the west run through it, and the whole forms an extensive tract, traversed by many lodes of a very important and promising character, requiring only the outlay of a moderate capital, with judicious management.

Detailed prospectuses, with forms of application for shares, may be obtained of the solicitor.

## THE CAPE OF GOOD HOPE COPPER MINING COMPANY (LIMITED).

To be incorporated under the Companies Act, 1862.

Capital £150,000, in 15,000 shares of £10 each.

Deposit on application £1 per share, and on allotment a further payment of £1 per share.

Calls not to exceed £2 per share, at intervals of three months.

DIRECTORS.

WILLIAM BEVAN, Esq. (Messrs. Wm. Bird and Co.), 2, Laurence Pountney-hill, P. G. VAN DER BYL, Esq. (Messrs. Van der Byl and Co., Cape Town), 3, Upper Hyde Park-gardens.

OSGOOD HANBURY, jun., Esq. (Messrs. Hanburys and Lloyds), 60, Lombard-street.

EDWARD JENNER JERRAM, Esq. (Messrs. Wm. Venning and Co.), 12, Pancras.

WILLIAM KEATES, Esq. (Messrs. Newton, Keates, and Co.), Liverpool.

JOHN KING, Esq. (Messrs. Phillips, King, and Co.), Fowke-buildings, Tower-street.

EDMUND A. PONTIFEX, Esq. (Messrs. Pontifex and Wood), Farringdon Works.

JOHN TAYLOR, jun., Esq., 6, Queen-street-place.

RICHARD TAYLOR, Esq., 6, Queen-street-place.

AUDITORS.—James Anderton, Esq., 20, New Bridge-street; Robert Henty, Esq., 40, Brunswick-square, Brighton.

BANKERS.—Messrs. Hanburys and Lloyds, 60, Lombard-street, E.C.

SOLICITORS.—Messrs. John and William Galsworthy, 12, Old Jewry Chambers.

MANAGERS.

Messrs. John Taylor and Sons, 6, Queen-street-place, Upper Thames-street.

MANAGER AT THE CAPE OF GOOD HOPE.—Henry Steele, Esq.

BROKERS.—Messrs. Hitchens, Harrison, and Co., 21, Threadneedle-street.

SECRETARY.—W. Vernon Venables, Esq.

OFFICES.—6, QUEEN STREET PLACE, UPPER THAMES STREET, LONDON.

This company is formed for the purpose of acquiring by purchase, from Messrs. Phillips, King, and Co., the present proprietors, large tracts of land in the district of Namakand, Cape of Good Hope, with the extensive copper mines thereon, and continuing the working of the said mines.

The property consists of the following estates of freehold tenure, subject to the payment of a small annual quit rent to the colonial Government, the total amount of which does not exceed £50 per annum:—

Springbok Fontein (Koper Berg)	42,820 acres.
Ookiep (Grooteberg)	6,435 "
Nabiep (Telykpad)	35,240 "
Moder Fontein	16,660 "
Dance Kraal	13,600 "
Kreem	32,842 "
A mofely of Wiedenpads Hoek	9,386 "
Obies	15,077 "
Reit Huus (Rodeklip Huuev)	30,730 "
Total	202,940 acres.

Together with certain freehold building sites in Hondeklip and Robb Bays, the shipping ports of the province, as also the remaining period of six years of a Crown lease of Spierke (Wheat Maria), and the mineral rights of the Farm Dikgat.

These properties have been in the possession of the above-named firm for nine years, and mining during that period has been carried on with very remunerative results, but a division of interests consequent upon the demise of two of the partners renders it necessary that the property should be sold.

The estates were purchased for the sum of £11,286, at a time when the property was of far less value in the Cape Colony than it is at present, and the buildings at the mines and stations, including a jetty 400 ft. in length at Hondeklip Bay, have cost £17,832.

A portion of the buildings at Springbok, consisting of gaol, magistrate's offices, &c., are let to the Government for £200 per annum, and other buildings are let for above £400 per annum: but these, and small portions of land adjoining, are about to be offered for sale by auction, and the proceeds will be received by the company.

Mining operations have been carried on by the present proprietors since 1853, and their rates of ore at Swansesa have been as follows:—

Tons.	Realising
In 1853	78 £2,829
In 1854	351 12,719
In 1855	1058 30,668
In 1856	1739 42,872
In 1857	2334 70,012
In 1858	2829 75,530
In 1859	2988 83,574
In 1860	3077 81,621
In 1861	1977 47,421
To October, 1862	2648 65,706
Total	18,999 £515,752

On £27 3s. per ton, a far higher average than that of any other mines in the world, and yielding a profit of upwards of £15,000.

The mines at present being worked are Ookiep and Wheat Maria, but other large deposits of rich ore are known to exist upon the estates mentioned, which it is believed, only need a small outlay to become as productive mines as any yet opened.

The concern is in full working order, and the yield of ore, averaging 30 per cent., has been during the first half of the present year 1453 tons, whilst the month of July shows a return of 241 tons, and August of 278 tons.

The quantities of ore sold at Swansesa, and the returns given above, represent, however, only a portion of the actual extraction from the mines, as in consequence of the cost of inland (or wagon) transport, and the limited extent to which it has been probable, all ores under 16 per cent. have hitherto been put aside.

The directors, having regard to the results obtained, and the *bona fide* character of the undertaking, have agreed with the proprietors for the purchase of the entire properties and rights on the following terms:—

The landed estates to be taken at the cost price—say, £11,286, and the buildings at £14,000 (£3832 being deducted from the original cost for depreciation). The sums amounting to £25,286, to be payable on possession being given.

The moveable property, consisting of trading stock, mining machinery, materials, and tools, antennae for transport and slaughter, wagons, boats, and stores of every description, to be taken at the maximum price of £33,000 (the amount at which it was valued in the inventories of December last), subject, however, to a re-valuation when the company takes possession, and to any abatement that may be necessary. Of this sum the owners have agreed to take as part payment £15,000 in shares.

The consideration for the mineral rights and advantages which the estates possess, as well as for the large accumulations of inferior ores now at the mines, is fixed at £15,000, to be taken by the owners in paid-up shares, deliverable to them at the expiration of 12 months after possession is obtained.

The above arrangements will leave nearly £77,000 for the working and development of the concern, an amount deemed ample for the purpose.

An agreement has been made with the owners for taking over the stocks of marketable ores which are in the country on the 1st of January, 1863, and also those which may be mined from that time until the company acquires possession, upon terms which will leave a profit to the company.

The directors of the company, desiring to give the fullest possible development to the mineral resources of the property, and being under the conviction that the outlay of a sum necessary for the construction of a tramway over about 15 miles of the most sandy part of the road, will have the effect of increasing the present carrying power, and lowering its cost considerably, propose commencing this work forthwith. They will follow this by the erection of works for the reduction and concentration of the inferior ores, and as these have accumulated to an enormous extent, and can be raised in large quantities, it is believed that the returns will thus be very largely increased.

Specimens of ores may be seen, and prospectuses obtained, at the offices of the company.

Application for shares to be made to the directors, and sent to the secretary, at the offices of the company, No. 6, Queen-street-place, E.C., or to Messrs. Hitchens, Harrison, and Co., brokers of the company; but no application will be considered unless a deposit of £1 for each share applied for shall have been previously made with the bankers of the company. The sum will be returned in full in the event of no allotment being made.

P.S.—At date of the last advice, Nov. 14, the mines were yielding well, and 2400 tons of ore were on the beach, a large portion of which will come under the arrangements made between the vendors and the company.

\* Since this statement was compiled the *Croydon* has arrived at Swansesa, with 410 tons of ore, worth about £12,900.

## THE CAPE OF GOOD HOPE COPPER MINING COMPANY (LIMITED).

The LAST DAY for RECEIVING APPLICATIONS FOR SHARES in this company is SATURDAY, the 10th January.

By order of the Board, W. VERNON VENABLES, Esq.

6, Queen-street-place, Upper Thames-street, London, E.C.

## TO ADVENTURERS IN FOREIGN MINES.—MR. HARRY THOMAS VERRAN, of PLACENTIA, NEWFOUNDLAND, who has had considerable experience (under the tuition of his father, and in connection with many other experienced Mining Engineers) is ready to UNDERTAKE THE EXAMINATION and REPORTING UPON MINERAL PROPERTIES in Newfoundland, the United States, or any other country, where his services may prove useful to capitalists. The greatest confidence may be placed in Mr. VERRAN, who will use his best judgment in giving reliable information to those who may repose confidence in him.

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By WHITTON ARUNDEL, Attorney-at-Law, No. 30, Strand.

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## THE MINER'S MANUAL OF ARITHMETIC AND SURVEYING.

By WILLIAM RICKARD,

Teacher of Practical Mining in the late Mining School of Cornwall, and Principal of the Engineering Academy, 36, Upper Parliament-street, Liverpool.

tion, and that in obedience to it he has exerted himself for so many years so zealously as he has done in the task of providing that instruction which we believe the miner himself earnestly desires. In conveying his request to us that we would endeavour to remove the wrong impression conveyed by the critique of the "Working Miner," Mr. HUNTER also remarks: "Your correspondent appears to suppose I put myself forward as a teacher. I pray you dispossess his mind of that idea. I feel that I have everything to learn; that notwithstanding all that has been written on the laws regulating the distribution of minerals in the Earth, we are all of us 'groping like the blind Cyclops,' and that while the guesses of the philosopher frequently lead us away from the truth, we cannot feel that the speculations of the most practised miner have yet interpreted the words which Nature has written on her tables of stone."

## ON WORKING COAL.

## THE "LONG WALL" V. "PILLAR AND STALL."

The highly interesting paper upon this subject by Mr. J. GOODWIN, read before the Manchester Geological Society, was published in a Supplement to the *Mining Journal* of Nov. 29, and the discussion which followed was of so valuable a nature that we now propose to give an extract of it. Mr. Thomas Knowles doubted the accuracy of Mr. Goodwin's statement that there was 5 per cent. loss by the use of the pillar and stall; in reply to which Mr. Goodwin referred to cases where even with careful management the loss had squelched 10 per cent. Mr. Knowles did not think 10,000 tons on the pillar and stall system gave Mr. Goodwin an opportunity of judging. There was a wonderful difference between excavating 10,000 tons of solid coal, and working out 5000 or 6000 tons in wide work, were there would be such a weight that there would be a tendency to crush it. Mr. Goodwin said that in working they build a packing on each side of the wagon-road, varying in width from 6 ft. to 3 yards, as the nature of the work might require. They make a wagon-road the same as on the pillar and stall system, and the only difficulty he had experienced was from the creep of the floor. The packing kept the whole roof. He referred to an instance where the packing kept 300 yards on the line of level, and 150 yards on the rise and dip, but he had known the workings to extend 1400 yards of rank, or width, from the rise to the dip of the workings. In thanking Mr. Goodwin for bringing the subject before the meeting, Mr. Binney said—

"I have no doubt there will be more advocates for the pillar and stall system in Lancashire than the long wall. Nevertheless, I am glad to see that Mr. Goodwin does come forward and say something in favour of long wall working. If the Lancashire gentlemen went into North Derbyshire probably they would find a great many advocates of the long wall system, and they would see advantages there which they do not see in Lancashire. The same remark will apply to the East of Scotland. I have a great idea myself that the different systems of long wall and pillar and stall workings will have advantages in particular districts. I think in Derbyshire, where the long wall system has been going on for 150 or 200 years, the men are so thoroughly drilled to it, and work it so scientifically, that its results would hardly be fair as applied to us. You would doubtless be a very long time in Lancashire in getting your men to work so well at it as they do in Derbyshire. On the other hand, and on the same principle, you would have a difficulty in introducing the pillar and stall system into Derbyshire. In Scotland they all use the former, and they say they can get a great more coal by it. I have a little colliery of my own there, and I am tied down by lease to work it upon the long wall, and no other system. They imposed upon me the necessity of doing this, although I would willingly have been allowed a choice. What I saw in Derbyshire, and what I see now, is that they certainly get cheaper and larger coal than in Lancashire. There may be peculiarities in the field, and in the nature of the roof, which give them some advantage; but I think it is not impossible that there may be many seams of coal in Lancashire which the long wall would work with success."

Mr. Knowles contended that in Lancashire they got their coals, as a rule, considerably cheaper per ton than in Derbyshire, where they adopt the long wall system; but Mr. Binney thought the Derbyshire people would decidedly object to that statement. In reply to a question from Mr. Knowles, Mr. Goodwin said he did not ventilate the goaf, and that there was not the slightest danger from gas, in consequence. Mr. Knowles had only had one fatal accident in 15 years, yet worked pillar and stall. Mr. Binney remarked, however, that in the neighbourhood of Wigan there had been a good many accidents, and continued—

"If you take the long wall system in Derbyshire and Scotland you will find that they have never had such accidents as with the pillar and stall system generally.—Mr. P. Higson (Government Inspector): The best proof that can be given of the merits of the long wall system is that there are several mines in Lancashire now worked on the long wall system with profit, which could not be worked at all with the pillar and stall system. There are also many others in Wales.—Mr. Joseph Dickinson (Government Inspector) said it was evident that the preponderating feeling amongst the viewers of Lancashire, as far as represented by the meeting, was in favour of the pillar and stall system. I myself was brought up in the North of England, and I thought then there was nothing like the pillar and stall system. During the last 22 years I have been constantly more or less in districts where the long wall system has been followed, and I find that the advantages of that system have grown upon me year after year, and it is now many years ago since I arrived at the conclusion that the two systems the long wall is incomparably the better. It possesses many advantages; and although Mr. Thomas Knowles may have given us the result of his experience at Wigan, where he has carried on some mines in the most successful manner, I do not think we should be led away from the advantages of the long wall system simply because he by means of the other is able to produce equally beneficial results. In Lancashire the best methods may be said to be a combination of the pillar and stall system and long wall. Pillar and stall, so far as driving to the extremity of the boundary is concerned, and then bringing the coal back by long wall, or semi-long wall, and pillar and stall. There are places where the waste is not only more than 5 per cent., but I know of my own knowledge that there is actually in thick and tender seams in South Wales one-half of some of the best steam coal in this country being left in the ground, crushed, spoiled, and irrecoverably lost. That is by pillar and stall work, whilst in the same colliery I have taken comparative results of the coal got by the long wall system, and I can state that almost the whole of the coal was obtained, and scarcely any lost. These points to which Mr. Goodwin has alluded may appear different to those who have not really gone practically into the subject of the long wall, especially what was called his new theory of taking down the roof to make room for the wagon-way to lift. There are many long wall collieries where it is decidedly the better way not to cut the bottom at all. Cut down the roof until you have all your ground settled about you, and you will soon have as permanently settled a road as if it had been cut into the solid coal. I have seen this over and over again; and if you will go into some of the mines in Shropshire, where long wall is universally practised, you will see what I mean. There is no other system practised there. In South Staffordshire there is scarcely any other system, except in the 10 yard coal, which is worked to a great extent by pillar and stall, and in a most wasteful way. In some parts of Derbyshire, or in the Clayton Colliery, at Manchester, for instance, you will see long wall carried out successfully; and it appears that at Clayton Mr. Goodwin has noticed the very same thing which I have noticed in other places. In Scotland, most of the iron-stone and coal mines are conducted upon the long wall system, and we all know that no men go more minutely into the matter of &c. & d. than Scotchmen. Mr. Binney tells you that there he is actually compelled to work his colliery long wall work. I have myself seen thick seams in the South of France worked by the long wall system. I have there seen a seam 80 ft. thick worked in this way. It may be easier to work a thin mine long wall work, but it is not impossible to work thick mines long wall, and I believe quite as successfully as working them the other way. Mr. Goodwin's paper touches on many other points, all of which are important bearing. In the long wall the ventilation is carried exactly where it is wanted, whereas in the pillar and stall you are dependent upon cut-throughs, bratticing, or other methods, all less certain. With regard to the question of safety, I have never seen any comparative results of the number of accidents as arising from the two systems, but I believe if they were compared together you would find that the result is considerably in favour of the long wall. In Scotland the number of accidents is exceedingly small, as compared with our own accidents. In Derbyshire accidents are few; in Shropshire few. In South Staffordshire they are more numerous, but that is because of the thick coal worked on the pillar and stall system. I believe, if you take the whole country round, you will find that the waste in pillar and stall working—that is, where the real pillar and stall, and not a combination of the two, is practised, as in Lancashire—you will find that the waste is very great, that a larger proportion of small coal is produced, and that a large proportion of very valuable mineral is lost, of which sooner or later this country will feel the ill effects. We are working very fast over some valuable seams. In large tracts all over the country they are being rapidly removed. The best seams at shallow depths are fast going away. I believe that the long wall system was introduced into the Manchester district by the late Mr. Bradbury, several years ago. He was a gentleman conversant with both systems, and had mines in Staffordshire worked by the long wall system. He saw the advantage of that system as compared with the other, and he introduced it here. I am glad to find that Mr. Goodwin has extended it into the Peacock Mine. There are several other points upon which I would like to touch, but our time is too limited.—Mr. P. Higson: I have seen on a large scale the long wall system carried out almost to perfection. I have seen on a similar scale the long wall well carried out in the neighbourhood of Wigan, in the present day. In the yard coal, in the cannel, and in other thin seams, the system has been carried out quite successfully; whilst it failed elsewhere, although tried by the same people. They failed from the fact that there was an overwhelming weight in the place, thereby crushing the coal into small. With regard to these two systems, as shown on the plans, they are now carried out in two collieries in my district side by side. There is one under the arrangement of a north country viewer. The quantity of small is equal in both, while that gives the larger outlet which provides more working places for the men."

Mr. Knowles still contending that there was no occasion to lose 5 per cent. in any mine, Mr. Binney suggested that he (Mr. Knowles) should give them a paper on the advantages of the system pursued at Wigan. Mr. Farrimond had never seen 5 per cent. loss in pillar and stall working. With regard to small, he considered it often resulted from the use of the pick. Mr. Higson thought all must admit that clean working is in favour of the long wall system. Mr. Goodwin considered that with regard to the safety of the workmen they were safer with the long wall system, because there is no breaking down of the works. In conclusion, Mr. Joseph Dickinson (the President) said—

"We have many mines in this county, for instance the Cannel about Blackrod, and some thin seams, which are worked long wall; whereas they were once worked on the pillar and stall system. All that narrow work is now saved; and it is only about a month ago since I had one of the large coal owners of South Wales seeing me, and he has some of the most extensive and the deepest steam coal mines in the Abergavenny district. He wished to introduce the long wall system; so satisfied is he of the advantages it possesses over the old pillar and stall system. But in South Wales they are not only proposing, but now in some cases are actually working on the long wall system. Pos-

sibly the heading of this paper, "Long Wall v. Pillar and Stall," has something to do with the antagonism set up against it. I do not see that there is any antagonism existing between the two systems. The long wall system is adapted to a great number of seams. Through the whole of Belgium to depth of 940 yards there is no other system followed. In that country the engineers, from the results of practice and consultation, have come to the conclusion that it is the system, and, therefore, they adopt it. And we also are gradually introducing more of the same system, which has been the system of some of our counties from time immemorial. I believe there is as little loss of coal generally in working the Lancashire coal mines as there is to be met with in any district, but that is owing to the combination of these two systems."

## CANNEL COAL, AND ITS USES.

Although it cannot be doubted that Cannel coal possesses many advantages as compared with ordinary coal, the uses to which Cannel is turned are very limited, its application being almost entirely confined to gas making, and even for this purpose it is seldom used, except under extraordinary circumstances, such as, for instance, an unusual draw upon the gas, or a temporary scarcity of hands. Provided, however, Cannel coal could be supplied at about the same price as best bituminous, there can be no doubt that it would invariably have the preference. Deposits of Cannel are found in Scotland, near Wigan, and in North Wales; the first-named supplying the principal portion consumed, and being undoubtedly of the finest quality. The great value of Cannel coal, as a gas-making material, arises from the enormous yield of pure gas obtained from it, as compared with ordinary bituminous coal. As a shipping coal, Cannel is, perhaps, the best that can be chosen; it is so hard and large that it can be delivered at a distant port in almost as good a condition as at half a mile from the pit's mouth, and it also possesses the advantage that it can be kept in stock without becoming comparatively worthless, as ordinary coal does. Comparing Cannel with bituminous coal, it is found in practice that the former yields 25 per cent. more gas, and that with Cannel gas purification is almost unnecessary. The advantage of shipping the Cannel coal for foreign gas works will, consequently, be at once apparent.

But it is not alone for export that the Cannel coal enjoys so high a reputation even at Birmingham, which is absolutely situated upon a rich coal field. It is found that Cannel which has to bear land carriage from Wigan can, in many instances, be advantageously substituted, from the fact that the caking coal usually yields only 8000 ft. of gas, which requires considerable purification, whilst the Wigan Cannel often gives 12,000 ft. This Cannel has been analysed by Mr. Leigh, the consulting chemist to the Manchester Corporation Gas Works, and, as has already been stated in the *Mining Journal*, the following results were obtained:

Carbonic oxide and aqueous vapour	1.53
Olefin gas and divers hydro-carbons	8.50
Atmospheric air	4.22
Nitrogen	0.19
Hydrogen	40.30
Light carburetted hydrogen	33.83
Carbonic acid	11.35 = 100.02

The Scotch and Leeswood (North Wales) Cannels give even better results than this, and it is probable that from the latter place especially a sufficient quantity could be obtained to ensure a large annual profit upon a capital of (say) 100,000/., to anyone developing the deposit with care and energy. The Cannel coal trade is one which has been comparatively little developed, but, at the same time, one which could be almost unlimitedly extended, so that those engaging in it may look forward with confidence to success.

## COLLIERY EXPLOSIONS AND "SENSATION" LETTERS.

[FROM A CORRESPONDENT.]

Whenever an alarming colliery accident occurs there seems to arise a far too general feeling that somebody, no matter whom, should be convicted of "Manslaughter" at least, or "Wilful Murder" by preference; yet but few of the outside public pay the slightest regard to the precise details of any particular case. Their argument is that so many persons have been killed, and therefore somebody should be criminally convicted. What satisfaction can it afford to these spasmodic philanthropists to know that the coalowner has taken every pains to appoint those whom he considers competent men to the several responsible offices in the colliery? How can they understand that the men, being accustomed to the mine, have no more dread of a fatal calamity than the citizens of London has of being killed by the fall of the house he is passing? How can they be expected to learn that the pecuniary loss to the coalowner is so great when he is unfortunate enough to have a great accident that the amount would often suffice to pay all the viewers in the district? Let these gentlemen depend upon it that no one is more ready than the coalowner to adopt improvements as soon as they are proved to be such, but he is unwilling to countenance the wild schemes of those who have probably never seen a coal pit in their lives. Every colliery calamity brings forward a whole host of inventors, who declare that had their inventions been adopted the accident could not have occurred. This is probably true in the particular case, but the coalowner could prove in twenty words that the remedy would be ten times worse than the disease, and that, although the particular accident might not have occurred, ten others, each more alarming than that avoided, would have been made inevitable. The compulsory use of safety-lamps in all cases might be introduced, and it might also be enacted that blasting with gunpowder should never be permitted; but beyond this, the judgment of those working the colliery is the only protection which the workmen can hope to have beyond what the present law gives them.

## THE EDMUND'S MAIN EXPLOSION.

[FROM A CORRESPONDENT.]

It has ever been the principle of the *Mining Journal* to advocate all modifications in the system of working collieries calculated to increase the safety of the workman, and to render his occupation more healthful; the reason for the course being that the working collier is less able to help himself than the coalowner, but we are by no means inclined to agree with such extreme opinions as those expressed by the dissentient jurymen at Edmund's Main—Mr. Edward Parker—in his letter published in the *Times* of yesterday morning. We opine that the expression of such views as those of Mr. Parker are calculated rather to prevent the introduction of safer systems of working than otherwise; and, upon the evidence we have been able to collect, we are unwilling to charge coroners and Government Inspectors with conspiracy to shield the coalowners, and to permit the sacrifice of the lives of their workmen with impunity. We are aware that Mr. Morton is less popular than some of his colleagues, and that it is the opinion of many of the working men that he is better fitted for a high civic position in York or London than for that he occupies; but that he is practically acquainted with colliery working, and exerts himself to prevent venturings in the collieries committed to his charge, is not, we think, doubted.

As a reason for his protest against the verdict, Mr. Parker states that it was "proved that the men received their orders from George Lawton, who was assisted by his son Henry. All this was proved conclusively; but I and others wanted to find out who was responsible for the management of the pit, who gave George Lawton his instructions, and what these instructions were? This was the main object of the inquest, if it had any object at all." And further on he remarks that "If George Lawton was the person responsible for blasting the coal with gunpowder in that fiery bord-gate, let him bear the blame, and let it be added to the heavy penalty he has already paid, but until that missing link of evidence is supplied I will not believe him guilty. I first knew George Lawton when he escaped the fatal blast which took place at the Oaks in 1847. He was illiterate, but trustworthy and resolute, and has ever proved himself a faithful servant. The wages he received at the time of his death were 30s. a week, and his house, and as he had the Swalith Colliery to attend to, where he had superintended the sinking of the shaft, the wages he received just amounted to 2s. 6d. a day for each pit.

Now, at first sight, these statements appear sufficiently condemnatory, but not so when they are carefully examined. That Lawton had the underground management of the pit is proved by the uncontradicted evidence, upon oath, of Mr. Mitchell, jun., that he had such management. We, unfortunately, perceive, also knew George Lawton; and although he was certainly not an educated man, there was certainly no want of intelligence in him, and he was decidedly more than equal to many overseers whom we have met with in the pits both of Yorkshire and in the North. We admit that 30s. and a house is a small salary for any man in a responsible position, but we must not lose sight of the fact that many of our London merchants do not pay their clerks who correspond in three languages a higher wage, and that no one thinks of calculating that he pays 2s. per day per letter written, or 1s. 8d. per day per language spoken. George Lawton was a man who possessed much intelligence, combined with a life-long practical experience; and we must admit that we would rather trust our life to such a man than to one who had received a collegiate education, but had had no experience.

Another ground of complaint to which Mr. Parker alludes is, that the coroner did not record the opinion of a collier, that it was not safe to use naked lights and the practice of blasting with gunpowder were not only dangerous, but fatally so. On the other hand, the opinion whether the air was good before the explosion is one which should undoubtedly be recorded, if it were only to prove that good ventilation does not invariably secure freedom from explosion, and to refute the notion very generally entertained among practical men, that the use of safety-lamps adds to the danger of colliery working, because they induce neglect to ventilate. With respect to the verdict itself, Mr. Parker states that the coroner read over the verdict, and gave his immediate approval to the first part of it, in which the jury "are unable to attach blame to any single individual," and then set to work with all the zeal of an advocate to persuade the jury to leave out the opinion they expressed, "that the cause of the explosion was owing to the incasations and unsafe working of the dip-bord of this colliery; the mode of blasting with powder there the jury consider to have been highly injurious and dangerous, and feel sure that it ought not to have been allowed by the overseer or prosecuted by the workmen."

Now, although the coroner may have taken unnecessary trouble to induce the jury to

leave out their opinion, and confine themselves to the precise finding, we cannot think that it was with any wish to screen the owners of the colliery. The fact of finding that they "are unable to attach blame to any single individual" is sufficiently reflective upon all connected with the management, and we believe that such a letter as that of Mr. Parker would never have been published, but from the circumstance that the word "single" was omitted by most of the newspapers in reporting the verdict, and that an excellent cause of complaint was consequently permitted to exist.

## REPORT FROM NORTHUMBERLAND AND DURHAM.

JAN. 1.—The notices referred to lately as given at the Steam Coal Colliery of Northumberland expire to-day. The notices of time, indeed, expired a few days ago, the men at the Backworth Colliery having ceased work nearly a fortnight ago, on the expiration of their time. The long-continued depression has caused the owners to propose a reduction at all those collieries in the prices paid for hewing and putting coals, &c. The men do not appear to object to a slight reduction. But another proposition has been made by the owners—that is, the re-introduction of a yearly bond, which has been discontinued about 18 years. To this the men appear to have a decided objection, and they appear to prefer the monthly agreement lately in force. But, at any rate, the men would have objected to a yearly bond at the present moment. If it were to be discussed at the old time for entering into those agreements—viz., in April—it might possibly obtain a more favourable reception than can be expected for it at the present time. The monthly agreement has its advantages and also its defects, and as might be expected, both among owners, agents, and workmen much difference of opinion prevails respecting it. One of its most glaring defects is admitted to be that it causes much more removing of the men among the collieries than would occur with the yearly bond; as the balloting for places in each colliery occurs quarterly, the men often change at those periods for the purpose of seeking better places than they have secured at the collieries where they may happen to be. The yearly bond of course removes this objection, and this is, no doubt, the main cause that it has been introduced at many of the collieries on the Wear, and in the county of Durham generally, and it is quite possible that it may shortly be introduced into Northumberland also. However, there is little doubt that this misunderstanding will be speedily adjusted.

Agreements have, indeed, been made at several collieries already—at Backworth, Seaton Burn, Cramlington, &c.; and as the owners have decided to throw the yearly bond out of the question, there is no doubt that all other differences will be settled, as the men appear to be willing to submit to a slight reduction in their prices. The state of trade continues to be considerably depressed; with the exception of gas and coking collieries, all others are very flat, the steam coal collieries especially so. The new year, if it brings the termination of the disastrous and stupid war in America, may, possibly, bring also brighter prospects.

An explosion of gas occurred at the Monkwearmouth Colliery, on Monday day. This ill-fated colliery is in consequence stopped for a few days. The occurrence was of a most singular nature; the explosion having occurred at the furnace underground. A small quantity of gas had, it appears, accumulated near the furnace, and when the man in charge raised the fire, an explosion took place. Fortunately no injury was done, excepting blowing the fire out of the furnace, and slightly burning the man. The fire, it appears, had extended no farther, but exhausted itself in the vicinity of the furnace; and all the men and boys got safely out of the pit. How the gas could accumulate there without fouling the general current of the mine, appears to be inexplicable. The mine has been laid off work until an examination can be made by Mr. Smith, the viewer, and his assistants.

A rumour is current respecting some movement in reference to the old subject, the "Tyne drainage." It is understood that an attempt is to be made to form a company for the purpose of draining the Wallsend and Hebburn Collieries in the first place, and so getting some of the valuable coal contained in them. At present the result is, of course, uncertain; but the probability is, that the scheme will succeed, which it well deserves to do. The coal in the Hebburn Colliery is very valuable, a large quantity remaining in the High Main seam, and also in the Bensham seam; while the Low Main seam has not as yet been worked at all.

## REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

JAN. 1.—The Iron Trade in this county, both in the northern and southern divisions, may still be reported tolerably active, and there is reason to expect a good number of orders at the quarterly meetings, next week. Prices are low, but there is a good demand, and a prospect of its continuance. The numerous companies set on foot last year will in most cases be consumers of iron, and the continental and Indian demand

ment of capital, as well as allow of a more independent control of the business of the bank. It may be well to remark that the proposed system is identical with that so successfully carried out by the National and Provincial Bank of England, and by the Provincial Bank of Ireland. The local solicitors are gentlemen of high standing, the junior partner being the present Mayor of Wolverhampton. The capital is 1,000,000., in 1000 shares, of which it is at first proposed only to issue one-half, and only 25c. per share is to be called up.

#### REPORT FROM DERBYSHIRE, YORKSHIRE, AND LANCASHIRE.

JAN. 1.—The dulness of the season and the holidays have affected the trade during the past week, the great majority of the houses being engaged in stock-taking, and other business necessary upon the termination of the year. The trials which have recently been made of the armour-plates have fully proved that those manufactured by J. Brown and Co., of the Atlas Works, Sheffield, stand the tests more satisfactorily than the plates of other makers. As the iron from which these plates are made is manufactured at the Shropshire Ironworks, near Chesterfield, it reflects great credit upon the quality of Derbyshire pig-iron. We hear of large demands for rails, principally for renewals; but for other descriptions of iron there is only a limited demand. There is a good demand for Derbyshire iron, and the rates are exceedingly well maintained. The Coal Trade is making satisfactory progress, the production during the past month at most of the larger collieries being good. The gas companies of the midland counties are now buying largely other Derbyshire coal for gas making. All the collieries are making full time, or nearly so, which shows the trade to be healthy, as at most of the works it was known that there were large stocks on hand, coalminers having kept on their men working for stock, in order to lessen the depression which prevailed throughout the summer.

The preliminary directors appointed recently for making a direct railway from Chesterfield, and through the Dronfield minerals to Sheffield, have appointed a deputation to wait upon the directors of the Midland Railway to ascertain whether they were disposed to go into the scheme without delay. The Midland are asked to put Sheffield on the main line to the north. The colliers of the Wigan district have given notice for an advance of 10 per cent. in their wages, and, in the event of it not being conceded, they announce their determination to strike. The coalminers have as yet made no reply to the application. An excellent patent for improvements in machinery for rolling tyres, hoops, and rings has just been taken out by Mr. William Longridge, of the Alderwasley Ironworks.

The bodies of the unfortunate 60 men and boys whose lives were sacrificed by the explosion at Edmund's Main Pit are still unclaimed, and it is stated that many may yet slumber before they can be recovered. The water is still being turned into the mine, which is kept air-tight, and, when it shall have been filled, there will be the tedious process of pumping it out again, replacing the brattices, and restoring the ventilation, before any attempt can be made to reach the bodies.

A very important colliery case was heard at Chesterfield on Wednesday. It was a charge against several men for leaving their work at the West Staveley Colliery at two o'clock in the day without notice. The men contended that the pit was in a condition unsafe to work, and that when they went at two o'clock they had done a fair day's work. The magistrates discharged three of the men upon payment of costs (1s. 1d.), and two others were dismissed without any payment whatever.

There has been nothing worthy of notice connected with the Derbyshire lead mines since our last, the miners being principally engaged in having their New Year's holiday. The opening of the new railway, which will take place during next spring or early in the summer, will give an impetus to mining speculation.

The local share markets have been dull during the week, principally on account of the holidays. The traffic on the different railways has been large, and the returns, on the whole, are satisfactory.

#### REPORT FROM MONMOUTH AND SOUTH WALES.

JAN. 1.—The announcement that the Staffordshire ironmasters, at their preliminary quarterly meeting, had determined to adhere to the present list of prices has had a favourable effect on the district generally. This resolution is looked upon as an indication that the trade is in a healthy and progressive state, and that as the year advances a gradual improvement will take place. It may be safely asserted that the iron trade has for the last six months been in a better state than has been the case for at least three years. Looking, therefore, at the vast trade, and more especially in iron, which has been lost to the country in consequence of the struggle in America, it is a matter of satisfaction to find that, with all these drawbacks, a considerable improvement has taken place. In fact, it has surprised not a few of our oldest ironmasters that the iron trade is in the position it is at present. Every description of iron is quoted about the same as last week. The Coal Trade evinces increased vitality, and the men are well employed at the majority of the collieries. As this is Christmas time there is but little general news to report.

An accident of a serious nature, in a financial point of view, has just occurred at Messrs. Wayne's tinsworks, Carmarthen. While the works were proceeding with their accustomed regularity, the ponderous iron shaft, upon which the water-wheel revolved, suddenly snapped, and the whole machinery was thrown into disorder. The works have since been partially at a stop, and it will take some weeks to replace the broken shaft. The old shaft, which weighed about 9 tons, was cast at the Neath Abbey Works about 23 years ago.

On Wednesday an inquest was held before Mr. Strick, coroner for the Swansea district, touching the death of a lad named James Rees, who was employed to grease the bearings of the rolls at Ystalyfera Ironworks. The deceased met with his death by his coat getting entangled in the cogs of the wheel, and he was crushed between the bearings. When the accident occurred the deceased was greasing the bearings with his hand, and not with a brush, as he ought to have done. The jury returned a verdict of "Accidental Death."

Some few weeks since it was announced that a change of management would take place at the Blaenavon Ironworks about the end of the year. It is now reported, on good authority, that Mr. Plum is likely to remain, and consequently no change.

The traffic on the South Wales Railways for the half-year which has just terminated, shows a large and satisfactory increase. This speaks well of the resources of the district, especially when the depression which has prevailed is taken into consideration. The subject will be more fully referred to in next week's report.

Some interest is excited by the Master of the Rolls' order for winding-up the Llan-harry Hematite Iron Ore Company, upon the petition of Mr. Habakkuk, a judgment creditor, who issued execution in October, to which he obtained a return of *nublong*. That the company was in difficulty was well known, but it was believed that a new company would be formed, and that all outstanding claims would be paid off without the aid of the Master of the Rolls, a course which the value of the property itself was considered fully to justify.

A correspondent of the *Swansea and Glamorgan Herald* gives the following interesting account of a visit to the Llwydcoed and Abernant Ironworks:—"A week or two back, in taking a ramble through South Wales, I got out at the Llwydcoed Station of the Vale of Neath Railway, and walked as far as the Aberdare Ironworks, belonging to Messrs. Richard Fothergill and Co., where there are three blast-furnaces, and from enquiry I was surprised to find that they were turning out upwards of 800 tons of good iron weekly; and I was pleased to find great regularity prevailing. Although making this enormous quantity of iron, every man seemed to be at his post, and everything appeared going on smoothly. I asked several of the men how they were going on, and their reply was that they had plenty of work; the wages were low, but they knew the iron trade was in a very bad state, and, therefore, their employers could not afford to pay more, and they believed themselves as well paid as any of their fellow-workmen from Aberdare to Abergavenny. I thought this was a rational consideration on the part of the men, and I wished them a speedy restoration of better prices in the trade, and higher wages for themselves. On going down from thence to Abernant Ironworks, I noticed a new branch railway from the works to the Taff Vale, which will be finished in a few days. This will be a great improvement, and much facilitate the business, as the Vale of Neath have for some years past had a branch running into the works. Here also are two blast-furnaces, belonging to the same company as those at Aberdare. From these two furnaces, No. 1 turned out good forge pigs, in one week, ending Nov. 7, 349 tons 10 cwt., long weight, and No. 2, 278 tons. From the furnaces I visited the rolling-mills, and was quite astonished to find 70 puddling-furnaces in full work, turning out more than 1200 tons a week of puddle-bars, and a large rolling-mill making about 80 to 90 tons of iron every 12 hours, besides two other mills for smaller sizes. Too great praise cannot be given to the managers of these various departments in both works, both for the make and the great and precise regularity in which all parts of the trade are carried out. I have visited almost every ironworks in Wales, and many in England and Scotland, but I have never seen one laid out with better management than the above. The great improvement that these works have gone through under the present proprietor, who is one of the most enterprising men in the world in the iron trade, is astonishing. The present writer collects, 30 years ago, when six blast-furnaces were working in place of the present five, and 300 tons a week for the whole was thought something extraordinary. Mr. Fothergill has also a large rolling-mill at Trefores, turning out 100 tons of rails every 12 hours, or 1100 tons per week. Great praise must be given to Mr. Fothergill for the good he has done in the neighbourhood of Aberdare, and the vast amount of employment he has given. Notwithstanding the great stagnation since 1858, Mr. Fothergill has kept on his works in full operation, and although the wages are low, the men have been kept in full employ. One other circumstance is worthy of remark, and must be beneficial to the interests of such large works—that is, every agent he employs, furnace managers, forge managers, mill managers, and all officers in the employ of the company, are thoroughly practical men, and have been trained in and risen from the works. This has, no doubt, been a great means of helping on these large works; while, on the other hand, theoretical instead of practical men have caused the ruin of many large firms. There are no agents paid better in South Wales than those in the Aberdare and Abergavenny Works, and they receive kindness from their employer; consequently they are faithful and valued servants, and take the greatest interest in their master's welfare, which, as good men, they ought to do. I feel I am trespassing on your columns; but on visiting these works I could not help but be struck with the great yield in iron, and the wonderful order and regularity that prevail there."

THE MONKLAND IRON AND STEEL COMPANY.—There is now, according to a report that gains universal credence in this quarter (says the Airdrie correspondent of the *Scotsman*), every prospect of the long-ideal malleable iron works belonging to this company, at Calderbank, being put into activity in the course of a few days. A large order for the supply of a quantity of iron plate for Government shipbuilding purposes is said to have been accepted by the company, and the fulfilment of so extensive an undertaking will necessitate the employment of the large rolling-mills at their disposal. Work will thus be found for at least 500 men, not to speak of the increased impetus given to their coal and ironstone mining traffic, in furnishing raw material for the manufacture. The intelligence brightens very considerably the prospects of the Airdrie traders, which have been somewhat gloomy for a length of time.

THE HARTLEY COLLIERY CATASTROPHE.—Anything connected with the memorable catastrophe at Hartley Colliery must still possess a peculiar interest. Sad and painful, however, are the memories of that dreadful calamity, the picture is not without its bright spots, and one of these pleasing phases it is our lot to record. On Saturday, the sinkers, who so heroically and at such imminent personal risk exerted themselves on behalf of the men entombed in the ill-fated mine, were presented with the medals which had been prepared for their reception by an admiring and grateful British public. There was no ceremony, the formal proceedings having taken place in the Town Hall on May 26, and the noble gifts, *etc.* *etc.* of which had been previously distributed, were now merely handed over to their owners by Mr. T. C. Hurst, the secretary to the Testimonial Fund. The brave workmen, of whom there were thirty-eight, seemed justly proud of the rewards of merit, while briefly and gracefully the master沉, Mr. Coulson, expressed the thanks of himself and gallant comrades. That they may long be spared to wear the handsome badges, but that they may not again be called to perform a task so melancholy, as wishes in which, we are sure, all will most cordially unite.—*Newcastle Chronicle*.

#### FOREIGN MINING AND METALLURGY.

Advices from Belgium report a quiet state of things, resulting from the usual practice of firms to balance their accounts at the close of the year. As was recently noted, the price of minerals falls sensibly in consequence of the employment of Sarrasin refuse in the fabrication of pig. The successful treatment of the once-despised residuum is due in great part to the experiments made, and the experience acquired, by M. Biondiaux, manager of the Thie-le-Château establishments. The greater part of the Belgian blast-furnaces now employ 50 per cent. of this Sarrasin iron-dross, and some works have stocks on hand for several years, and are either slackening or not increasing their extractions of minerals. The utilisation of the iron dross in this manner is a great piece of good fortune for the whole Sambre and Meuse district, the ironmasters of which were embarrassed previously. The employment of the minute minerals of the Luxembourg has also involved economies in the rates at which pig can be made available. These minerals are now not only sought after by Belgian works, but also by French and German establishments; and the consequence of such a state of things is seen in the fact that when, a few days since, the commune of Athus adjudicated the privilege of working its bearings for six years, a lively contest took place, and the rent to be paid, which formerly stood at 1s. 1d. per ton, has been increased to 2s. 1d. per ton (or minerals raised). The Sarrebrück Forges Company obtained the coveted privilege on these terms. The importation of foreign minerals into Belgium increases every day; thus, in the first ten months of 1862, 86,300 tons were entered from the Grand Duchy of Luxembourg, and 3127 tons from the Dutch Limburg. The total imports for the ten months exceeded 91,000 tons, while, for the same period of 1861, they only amounted to 28,000 tons, and in the same period of 1860 to the still smaller quantity of 1400 tons. The exportation of minerals has also increased, but in a less degree; thus it advanced from 128,000 tons for the first ten months of 1861 to 171,000 tons for the first ten months of last year. New efforts have been made at Paris to induce the Minister of Commerce and Public Works to recommend the purchase by the State of the canalised Sambre. Delegates from the Charleroi coal works have recently put forward applications with this object; but, notwithstanding the evident advantages which it is contended that the State would derive from assuming the property and reducing the tolls levied, a favourable solution of the wants and wishes of Belgian "industries" does not appear probable. A Mons journal complains of the difficulties which Belgian coal workers experience at certain seasons of the year in obtaining the railway plant required for the transport of their coal. These difficulties exist in a greater or less degree in all the coal basins, and at Charleroi they have this year manifested a rupture of the good understanding previously prevailing between the coal workers and the Northern of France and East Belgian Railway Companies. Gentlemen placed at the head of important industrial pursuits would be guilty of carelessness if they did not seek the necessary means of satisfying both the public interest and that of railway administration. The Mons journal observes:—"An iniquitous system of subscription is organised by which only great coal companies and large buyers of coal can profit; thus the conditions exacted by the State upon those who wish to obtain a supply of trucks are as follows:—Engagements must be made for a month, and each truck must make in this period a number of journeys calculated at the rate of the distance traversed. The trucks must also always leave the same station for the same destination, and it will readily be seen that the small industrial or merchant, who only wants a few trucks every month, cannot take advantage of this system. From this state of things it results—1. that the large buyers forestall by subscription the greater part of the disposable plant; 2. that the goods trains are almost entirely composed of subscribed for trucks, which, being under the necessity of making journeys backwards and forwards in a limited number of days, have the privilege of leaving, whether empty or loaded; and, 3. that there are very few disposable trucks besides those subscribed for. If this is distributive justice we do not know what the expression implies; and, still further, we do not understand what object can be served by subscriptions, which are only made in the winter season—that is, when rolling stock is continually wanted. Why should companies then conduct their business in a manner profitable to only a few favoured individuals?" The orders for deliveries by boats are less and less abundant, but this is only what was to be expected, seeing that large stocks for the winter are now laid in. Freightings, as a natural consequence, have experienced a general decline. A royal decree, dated Dec. 14, 1862, authorises the establishment of an undertaking to be known as the Belgian Company, for the Construction of Railway Engines and Plant. The shareholders in a kindred enterprise—the Central Belgian Company, for the Construction and Maintenance of Railway Plant—have just held an ordinary general meeting, and have been presented with the balance-sheet for the exercise of 1861-62. It appeared from the report which was read by M. Deschamps, Minister of State and President of the Council of Administration, that, notwithstanding the aspect of the Continent and of the world during the past year was unfavourable to the development of industrial and commercial affairs, the company has witnessed an improvement in its situation, and an increase in the importance of its operations. This improvement is represented obviously enough in the fact that the distribution on the shares for 1861-62 is increased to 11. 1s. per share, or 6 1/2 per cent. upon the capital employed. The shareholders seemed highly satisfied with the facts indicated by the balance-sheet, from which it appeared that, notwithstanding the creation of a new workshop, the capital account (in other words, the amount sunk in land, buildings, engines, tools, &c.) has been reduced. "The difference is certainly small," the report observed on this head, "but it is the first step made in a path on which it is not always easy to enter, but on which we shall insist on advancing year by year." The financial position of the company certainly seems very good. The amount of capital sunk scarcely exceeds 40,000/., and the floating capital is about 80,000/., more, while the annual results obtained from the railway shares or securities held by the company in part payment for work and labour done (for, of course, to obtain contracts it is necessary to accept considerable sums in paper) are alone sufficient to cover the whole of the interest accruing on its shares. Of the dividend now being paid by the company, 11. per share has already been paid on account; the remaining 6s. will be payable on March 31.

From France, it is reported that the price of charcoal-produced pig is still maintained in the Haute-Marne at 51. 12s. to 51. 16s. per ton, but it is not thought that these high rates will be long sustained. Mixed pig, produced with charcoal, and 20 or 25 per cent. of coke, is neglected, and is offered at 41. 16s. to 51. 16s. per ton. English pig costs at St. Diéz about 41. 8s. per ton. The position of the works of the Champagne district is declared—all contrary theories and assertions notwithstanding—to be unsatisfactory, few orders coming to hand, while pig is dear. The competition of the neighbouring works of the Moselle is feared more than any foreign rivalry. The last quotation for rolled irons in the Champagne district was 91. 4s. per ton. The works of the Moselle, it may be added, have just reduced their rates for rolled irons, which are quoted at 81. 8s., taken from the forge, or delivered at Metz. The coke-produced pig of the Meurthe is offered at 31. 16s. per ton. There is not much change to note in the aspect of the foreign copper markets. At Paris, and also at Havre, quotations are without change. Notwithstanding the quiet aspect of affairs, however, prices have been well sustained at Hamburg, where the sale is mentioned of about 15,000 livres of Hackenbros, 13,000 livres yet remaining on hand at the last dates. A supply of 1,000,000 livres of Chilian in bars, which has arrived direct during the last few days, has been consigned for immediate delivery, so that it will not be offered to the market. The Berlin copper market has been heavy, and prices have been rather feebly supported. Tin has been rather quiet at Amsterdam and Rotterdam. At Paris, transactions have also been restricted; nevertheless, former rates have been maintained, Bane being quoted 123. 1s.; Detroit, 121. 1s.; and English, 115. per ton. Some transactions have been concluded at Hamburg during the past week, in execution of small orders, which have arrived at that market. Berlin and Cologne have been calm, and without change. There has been less activity in lead at Paris, and prices have fallen from 4s. to 3s. per ton. The demand has also ceased at Hamburg, and prices are now almost nominal at that centre. From Berlin and Cologne substantially the same report is made. Zinc is improving a little in price. The Paris market has been quiet, but rough zinc is quoted 18s. 12s. to 18s. 16s. per ton. At Hamburg prices are very firmly supported, with a slightly advancing tendency. Breslau has been calm, at former rates.

The French banking house, which possesses a perpetual concession of the Fraternidad iron mine, in the Spanish province of Almeria, 67 miles from Carthagena, is about to issue obligations, which will have the advantage of a special hypothecation. Without pronouncing any opinion as to the merits or demerits of the proposed investment, we may, nevertheless, cite a few of the details brought forward as to the present position of the undertaking. The mine consists of a mountain bordered by the sea, composed of banks or layers of minerals, forming a compact mass, which is worked externally in the simplest manner, without any exploratory works, pits, galleries, or any costly operations of art. The mineral extracted is manganeseiferous peroxide of iron; it is pure and free from sulphur and foreign metals, and its origin assures a great permeability by the gases of blast-furnaces, so that its reduction will be easily effected. An analysis made by M. Brustein, engineer of the mine, has yielded 76.57 per cent. of sesquioxide of iron, and 8.32 per cent. of manganese. Another analysis, carried out by Messrs. Johnson and Co., of London, shows 78.65 per cent. of oxide of iron, and 10.60 per cent. of oxide of manganese; and the whole of the analyses made show an average richness of at least 70 per cent. of peroxide of iron, or more than 50 per cent. of pure iron. The general appearance of the mine, its chemical composition, and the richness and texture of the minerals, show the value of the working, the products of which are sought after either for improving mixtures, or the special fabrication of superior pig, suited for the production of steel. The minerals raised are carried direct from ships to the roadsides in boats, which each transport 4 to 6 tons, and make from ten to thirteen voyages every day, according to the state of the sea. The transport and shipment is effected by contract, and at very moderate rates, which do not cause the price of the minerals to rise much above 8s. to 8s. 6d. per ton when delivered on board, all general expenses included. The Fraternidad roadstead has the precious advantage of being naturally sheltered against all winds, and of being on a average accessible for 20 days of each month to ships of the heaviest tonnage. Thanks to these specially advantageous circumstances, the connection which the mine has acquired has settled into regular habits of seeking the mineral on the spot. Among the most notable cargoes shipped, may be mentioned those taken by the *Solferino*, Captain Perdleton, and the *Investigator*, Capt. Caver, which were loaded in January last for the account of the Ebbw Vale Company, of Newport—the first with 1100, and the second with 1000 tons. The production of the mine is estimated at 60,000 tons per annum, and a working contract entered into leaves a margin of about 2s. 9d. per ton between the cost of production and the sale price, thus securing the concern a profit of about 8000/.

Among the most recent deliveries effected have been 5000 tons of minerals to the Marseilles blast-furnaces, 20,000 tons to the Alais forges and foundries (Benoit d'Azy), 12,000 tons to Messrs. Pein, Gaudet, and Co., for Tora, Corsica; 15,000 tons to the same firm for their Givors furnaces, 40,000 to the Ebbw Vale Company, and 45,000 to various other customers, more especially the Hamont Works, Messrs. Jacquinet and Co., of Solenzara; Messrs. Brown and Cowell; the Montataire forges, and those of Terre-Noire, La Voile, Besseges, &c.

THE LUSITANIAN MINING COMPANY.—The district of Aveiro is undoubtedly one of the most important of the mineral departments of the country. It has two flourishing and well-known mines, whose metal is to be found in the national markets of London and Germany. Besides the metalliferous establishments of Palhal and Bracal, we have other mines, some already in working, and others being commenced. The riches extracted from the earth are widely distributed by those who are occupied in this profitable branch of industry. Hundreds of families have every day certain means of existence by their employment at these mines. Human activity has no limits, and is always eager to employ itself on anything where there is a possibility of a profitable return. We now have to mention a festival which took place at the Palhal Mine on the 6th inst. It was a memorable occasion to the people of the mine, and to the enterprising manager of such prudence and intelligence. On that day a new draining machine for the shafts of the mines, and for the extraction of minerals and rubbish, commenced to be worked. This consists of a hydraulic wheel 40 ft. in diameter, and of 90-horse power. The weight of water required to move the wheel with all the necessary force is 5 tons, and its motion is 360 rotations per hour. The River Calma runs near the mine, and to convey the water to the machine they have constructed a canal of

more than 700 metres in length, by 12 ft. in width. They think of erecting another machine for the extraction of rubbish and minerals, by which they will dispense with nine horses, which are at present employed for this purpose. In order to assist at the inauguration of the new machine, the worthy director of the establishment, Mr. Cruickshank, invited the principal members of the Albergaria Council, that they might enjoy a spectacle to them entirely new, in which so many improvements would show the flourishing state of mineral industry in this district. At 10 o'clock in the morning Mr. Cruickshank gave the signal, and the water from the Calma rushed with all its force upon the great wheel, which commenced to move. This act was accompanied by all the solemnities practised in similar cases in Great Britain. A bottle of port wine was broken on the wheel, and the directors delivered a discourse upon the advantages of the new machine, the apparatus of which immediately commenced to act. The numerous spectators then gave immense applause, glorying in so brilliant a success, and discharging a number of rockets. After the satisfactory results of this first trial, Mr. Cruickshank offered a collation to all those who were invited, and to the captains of the mine. Many toasts were given to the prosperity of the establishment, to the proprietor, to the London directors, and to Mr. Cruickshank. The latter gentleman had arranged to give a dinner to the workmen of the mine, so that they and their families should commemorate a day so propitious for them; this, however, they were not able to put into effect until Monday, the 8th inst., when about 500 persons sat down to partake of the dinner provided. The tables were divided into classes—artizans, miners, and persons of both sexes similarly employed in the great establishment of Palhal. The 8th, then, was truly a festive day at that mine. The satisfaction of Mr. Cruickshank, together with the delight of those who, invited by him, assisted at the inauguration of the new machine, was only equalled

improve; the lode is well defined, and is always kindly, but so far it does not contain ore enough to be reckoned of much future value. Hooper's shaft is progressing favourably as far as its sinking goes; we have, however, very recently met with a slide which has cut through the lode from north to south; what influence it will have we cannot yet say, as we have never before met with anything of the kind. We were congratulating ourselves on the improvement which had taken place in the last 3 or 4 fms. before we fell in with the slide, and we can only hope that as we get into settled ground the lode will again improve, and become as before. On the surface everything is pushed forward as fast as possible. In dressing the usual dispatch is being made. We find ourselves compelled to put in another round bundle to keep away the staff from the crusher, about which we are now engaged.

**EAST KONGSBERG.**—D. T. Macdonald, Dec. 19: Sundse: The vein in the southern mine continues to give a little scheelite and malm, while those in the northern are poor.—Ramsrud: The south vein is yielding a little scheelite in the stopes east of gesink.—Nesas Gluck: The adit to communicate with the northern mine is now driven 4½ fathoms, leaving 1½ fathoms still to drive before hoisting. The party clearing out the eastern skjorpa are making good progress.—Pukvoerk: During the week 98 tonne of malm have been stamped, which have yielded 13% oz. gauderit silver by vanning: 6 tonne of silver have also been added to stock.—Tallings: We are still trying experiments upon the tallings from the old workings, for the purpose of ascertaining the best mode of extracting the silver from them.—N.B. The Ertas silg, No. 1, contains 10½ lods per cent, and the Ertas silg, No. 2, 4½ lods per cent. The other silgs are not yet ready for the smelting-house. The main stamped this week was from the foundation of the old Pukvoerk.

**CLARKEON CONSOLS.**—J. Martin, Dec. 6: Stamford Hill: Since last we have completed the sinking at the shaft below the 94 fm. level; the lode has much improved in appearance, being now about 3 ft. wide, composed of carbonate of iron porphyry, with veins of yellow ore; we have seen more ore in the last 3 ft. than in the previous 15 fms. We have cased and divided the shaft from the 94 to the 108, and have commenced driving west at this point, where the lode is 3 feet wide, and of the same appearance as in the bottom of the shaft. I propose driving to a communication to the winze sinking from the 94; this will give air, so that we can sink a fathom or two below the 108 with tackle, without putting extra work on the engine. I have thought of doing this to see if the improvement in the lode continues; if so, I shall then know better how to proceed. The lode in the 82 south-west is now 6 feet wide, composed of carbonate of lime, &c., mordic, and spots of yellow copper ore, and letting out more water. The lode in the 70 is 4 feet wide, composed of gossan and green carbonate and small branches of ore, and letting out a large stream of water; this has increased the water on the engine, and drained the winze in the bottom of the 46. We have cut in about 6 feet on the lode in the 46, east of the cross course, and find it composed of prian and ore for the first 2 feet; worth ½ ton per fm. in the end at present; it is composed of gossan and green carbonate with small veins of black ore, letting out a large stream of water; as soon as we cut the south wall I propose driving east on its course. The weather continues very wet, and much against carrying wood for the engine.

**GREAT BARRIER.**—The directors have received a letter from their manager in New Zealand, in which he states—"All going well at the saw-mill; great excitement at Otago and Canterbury, from the discovery of new and rich gold fields. The quartz mining here will go on steadily, and will, I have no doubt, pay well. I think that I shall be able to make about 5s. per 100 feet profit on exporting Kamitimes, cut by hand, from the Barrier. If I see my way clear I shall do so till the mill is at work."

#### GRESHAM LIFE ASSURANCE SOCIETY.

The annual meeting of this society was held at the head office, Old Jewry, on Dec. 23.—Mr. W. Tabor in the chair.

Mr. E. J. FARREN (the actuary and secretary) read the notice convening the meeting, and submitted the report of the directors, as follows—

The following statement comprise the chief elements of the society's transactions during the financial year ending July 31, 1862, and constitutes the report of the directors for such year to the general meeting:—

The proposals offered have been exceedingly numerous, being 2678 in number, for assurances on 1,207,1017, making an amount of no less than 20,000 proposals for 10,000,000 of insurance, since the commencement of the society. The number for which the directors have accepted and issued policies is 2135, for assurances of 1,076,0407; in respect of which 30,373 2s. 10d. has been added as new premiums for the year. The general premium income, after bonus reductions, has been 128,4097. 6s. 10d., exclusive of interest upon investments and annuities.

The deaths, with the bonuses attached to the policies constituting claims, have amounted to 47,409. 6s. 11d.; thus completing a total of more than 250,000 distributed by the society among the families of deceased members.

At the close of the year, after allowance for the various items of expenditure, and after exclusion of the share capital and deposits, the remaining funds actually accumulated and invested at interest amounted to 290,647. 8s. 1d. The accounts for the year, with the various details, have been monthly investigated by the auditors, and being certified by them to be correct, have already been circulated, and are now submitted for approval and adoption.

During the past year the directors have had various methods for the extension of business under their notice, but, as on former occasions, have not extended their agencies beyond the limits of Europe, so as not to include any case or class of cases that cannot be rigidly investigated from week to week personally by the board. The usual exaction, by the assured, of so many days of grace, for the option of paying or not paying their premiums, will always prevent the premium account from being purely in a cash state, but as every approach to a clear apprehension of the real financial result is to be desired, the efforts of the directors will be ever exerted in such direction. The present system consists in not taking credit as a manner of account for all the new business transacted in the gross, but in writing off the main charges and carrying forward, as new premiums, such remaining portion only as may be fairly representative of the monied result.

During the year the Joint-Stock Companies Act of 1852 has come into operation, rendering it necessary that a new registration of companies should take place with the distinction of unlimited companies, limited companies, or companies limited by a guarantee. After taking all the circumstances into consideration, and the particular nature of the society's transactions, the directors determined that the Gresham Life Assurance Society should be registered without any limit, otherwise than by its own contracts, and so registered it accordingly.

The directors retiring on the present occasion are John Beadnell, George Lowe, F.R.S., and Joseph Williams, Esq., who, being eligible, offer themselves, and are recommended by the board as the list for election. Messrs. G. H. Ladbury, William Webb Yeom, and W. Whitecock, are the three auditors who retire, and again offer themselves for election.

In conclusion, the directors conceive there is ample reason to be satisfied with the manifest progress the Gresham Life Assurance Society has made, and will never cease, by every means in their power, to uphold the high character it has already obtained, and to extend its usefulness upon every occasion that may legitimately present itself.

The CHAIRMAN congratulated the shareholders upon the satisfactory progress the society had made. During the year there had been offered no less than 2678 proposals for insurances—a number almost unprecedented—he might say, quite unprecedented—in any society in any one year (hear, hear), covering an amount of upwards of one million, and giving the society new annual premiums of 20,0007, which was a much larger amount than received by any other office. The Gresham Life Office had now been in existence fourteen years, and the sum distributed during that period amongst widows and orphans amounted to nearly a quarter of a million, and this year they had distributed 47,4097., which showed that they were not only benefiting society at large, but that they were doing good to the widow and orphan. The accounts had been placed before the shareholders, and he could only say that he should be glad to furnish any additional information that might be desired. He concluded by moving that the directors' and auditors' report be approved and adopted.

Dr. A. SMEES, F.R.S., in seconding the proposition, felt it extremely difficult to express the feelings of gratification the directors again experienced in coming before the world with such a satisfactory report as that just read. The large extent of insurance proposals that had been offered to this society, and the very large number that had been completed, showed the magnitude of the operations, which, as far as he knew, was quite unequalled in any other insurance company. He need hardly state that the whole success of an insurance company depended upon its accession of new business. Now, the new business of this society had far exceeded anything that they ever could have anticipated, and, when they looked to the large amount of 30,373 2s. 10d., he need hardly state that the directors were almost surprised at the very large sum which the society had this year received. As at the meeting last year he ventured a prediction that the new premiums would be larger on this occasion than during the preceding year, so he thought he was now fairly entitled to say that the new premiums for the next year would very far exceed what they had attained this year. They were frequently asked how it was that so large a business had been attained by this office? The reply was very simple—thorough, perfect, and complete organisation. Each of the assurances that had been selected was seen separately, one by one, and each proposal was carefully considered by the board in that room. The directors had placed before them a question for amalgamation; but he was happy to say this society found it quite unnecessary to amalgamate with any other company that had been offered to them. They had found it much more to their interest to continue as hitherto—every policy being carefully sifted and carefully examined by the directors. He might state generally, with regard to the business of the society, that the decline business had not increased, but that it was rather giving way, which tended to an increase of income! They had now what was called a first-class business, in which the society must look for an enlargement of its scope. He might also state that their lives were not only of a first-class character, but, what was of equal importance, they were held by persons of a gradually increasing rank in society. All who were acquainted with life assurance knew that those who were well to do were not subject to the same vicissitudes and same risks as those of more slender means. As the growth of the society progressed, they found a higher class of people coming amongst them, and it was by steady perseverance, and by attention to every case that came before them, and by speedy decisions, that the Gresham Society commanded the respect of those who had erected this enormous edifice. (Hear.)

The report of the directors and auditors was then unanimously approved and adopted.

Mr. E. SALLY, F.R.S., moved the re-election of the retiring directors, which having been seconded by Dr. THORNTON-WATER, was put, and carried unanimously.

The auditors were re-appointed, and a vote of thanks was passed to the Chairman.

The CHAIRMAN, in acknowledging the vote, said that during a period of 14 years he had had the honour and pleasure of presiding over the society's meetings, and it certainly was with increased pleasure and with increased satisfaction that he presided upon this occasion.

Dr. A. SMEES said, that a little out of order, he rose to move a vote of thanks to their eminent actuary and secretary for the able and satisfactory way he had conducted the society's business during the past year. He brought to bear a large amount of mathematical and general knowledge on every question of insurance, reversions, and life contingencies which came before the board, and which knowledge was found to be of great practical value. He (Dr. SMEES) was sure the present meeting could not separate without expressing its deep sense of the feelings of esteem and respect they entertained towards their able and zealous actuary and secretary, and, therefore, he begged to move that the best thanks of the meeting be accorded to Mr. Farren.

Mr. J. BEADNELL having seconded the proposition, it was put and carried unanimously.

Mr. FARREN acknowledged the vote in a few appropriate remarks. Their society had maintained a steady progression, and it was his firm conviction that its progress would be much greater than hitherto. (Hear, hear.)—The proceedings then terminated.

**HOLLOWAY'S OINTMENT AND PILLS—INDISPENSABLE REMEDIES FOR BAD LEGS, OLD WOUNDS, SORES, AND ULCERS.**—If used according to directions given with them, there is no wound, bad leg, necrotic sore, or bad breast, however obstinate or long standing, but will yield to their healing and curative properties. Numbers of persons who have been patients in several of the large hospitals, and under the care of eminent surgeons, without deriving the slightest benefit, have been thoroughly cured by Holloway's ointment and pills. For glandular swellings, tumours, surary, and diseases of the skin, there is no medicine that can be used with so good an effect. In fact, in the worst forms of disease dependent upon the condition of the blood these medicines are irresistible.

**THE MINING JOURNAL.**

#### MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

**GREAT WHEAL VOR.**—Wheat Metal is reported to be looking very well. **WEST GREAT WORK.**—Having visited this mine a few days since, I was much pleased with its general features and geological position, and fully concur with the strong opinions expressed by Capts. Charles Thomas and Joseph Vivian in their reports published in the Journal. Situated at the junction of the Great Work Mine granite with the killas, containing some six east and west and ten caunter lodes, in a large sett, with elvans and cross-courses, which have made in neighbouring veins, it will be highly probable that this will also make an extensive and valuable mine, and I consider it a good investment.—THOMAS FAUL.

**WORVAS DOWNS.**—The lode in the 40, on the caunter, is still improving, worth now fully 507. per fathom. The lode in the bottom level (the 60) is 8 to 10 feet wide, yielding good work for tin, worth (say) 254. per fathom. This mine is opening well, and at very small cost.

**ROSEWARNE CONSOLS.**—The lode in Ellen's shaft is gradually regaining its former value, and will, no doubt, soon reach it; worth now fully 507. per fathom.

**SIR.**—Mr. George Henwood, when he wrote his *Photograph No. V.*, must surely have had the Tassan Mine and Capt. James Skennings in his mind's eye, if not the cases and facts present a remarkable coincidence, being precisely identical. It is to be hoped, for the sake of mining as well as for the sake of the locality, Mr. Henwood will put into effect the noble principles and practices he so graphically depicts and so ably advocates. At mine, Coolartira, on the same lode as the Tassan, and adjoining it, he has a ten times more favourable opportunity than ever Capt. Skennings had in the Tassan. Let us see now how his "perseverance" and "self-confidence" will be displayed. Much has been done for him in the way of discovery; Capt. Skennings's labours have really been for the benefit of the Coolartira, by proving the lead in depth. The Tassan has literally been doing so for the former mine, which has had lead in large quantities from a shallow depth to the 32, and gone down with a good lode in the bottom. The two requisites alluded to in Mr. Henwood's clever paper, together with an adequate capital, I firmly believe are all that are necessary to render the Coolartira a first-rate paying speculation, but I would warn Mr. Henwood against putting up a toy of an engine, as he will meet heavy water. I wish him success in his speculation, and shall assist in it with "confidence," if he displays "perseverance."—MONAGHAN.

**THE RHAFNA MINE** is in the vicinity of the Gwydyr Park Consols, on a parallel vein; operations are begun in earnest, and in bringing in a stop, so as to make good the level under the old rich workings, there is a good lode, yielding lead ore in fair quantity. I believe that if this mine is properly developed it will become productive.

**THE ASHBURTON DISTRICT.**—Being interested in the welfare of mining enterprise, and feeling confident of the ultimate success of the mines in this neighbourhood, it is with great pleasure I record the improvement that has taken place in Smith's Wood Mine. In driving about 3 fms. west of shaft, at the 25 fm. level, they have cut into some splendid copper ore, the leader part of which is 4 inches wide; the ore is a beautiful soft yellow coated and black oxide, as good in quality as can be produced (what miners would term rather ripe); the lode is intermixed with a beautiful soft friable quartz, and has every appearance of a course of ore being close at hand. The shaft is sunk 2½ fm. below this point, the continuation of which will intersect this shoot of ore very shortly. This lode, which has all the characteristics and composition of a productive copper lode, has produced some good work for tin in the backs, but at about 4 fms. below the 11 fm. level they cut into some extraordinary fine copper ore—the oxides, peroxides, and sulphides, and the discoveries and improvements made in continuing the sinking of this shaft has led men of high scientific attainments to expect great results, and which we believe are now on the very point of being realised. They have every requisite in the shape of machinery for fully carrying out mining operations.

**OKEL TOR.**—We are happy to learn that there is that steady increase of men employed to raise copper ore which was anticipated at the last meeting of the company, and which, if sustained, will, most probably, lead to this mine being shortly placed on the Dividend List, and becoming, after a dreary and heavy expenditure, the hopeful pioneer of the district; showing that copper may exist in profitable quantities, at a fair depth, south as well as north of the granite range of Kitt Hill.

**HARWOOD.**—The vein recently discovered at this mine has been cut in the level under the limestone, and no doubt is now entered of its permanence. The 26 tons 18 cwt. of ore recently weighed was got from a drift of only 15 fms., and not 20, as previously stated, the first 5 fms. of the drift not being in the vein.

**ROARING WATER.**—The reports from this mine are highly satisfactory.

The new discovery is opening well, and likely to produce large quantities of copper ore; the size of the lode is increasing, and the quality of the copper is of a stronger and more permanent character, composed of base-metal and pectoc ore. From enquiries made at the office we learn that the share list will close on Jan. 15.

**WHEAL REETH.**—It must be very gratifying to the spirited adventurers in this good mine to find that their patience and perseverance are about to be rewarded, after a long period of heavy calls of from 32. to 51. quarterly (from the small number of shares). It would now appear that calls are at an end, and profits being made. This mine formerly paid handsome profits, but these were suspended ten years ago, and has been worked at periods during that time at a loss varying from 50007. to 250007. per quarter, the entire debt being sometimes from 300007. to 250007.; that debt has been reduced to about 73007., and instead of a loss on the past quarter, there has been a profit of 1287., or sufficient, had there been no debt, to have paid 10s. per share dividend. It is to be regretted, however, that a final call was not made at the meeting on Dec. 17, sufficient to have cleared all the existing liabilities, which would have placed the mine in a most sound and healthy condition; but I suppose the committee knew best, and from the great improvement in the 150, west of Frederic's shaft, valued at 407. per fathom, that reasonable expectations exist for seeing their way clear soon to wipe off the debt from profits. The district is undeniably a good one, and the number of shares so small (240), a great rise may be expected; indeed, a rise from 207. to 457. per share has already taken place, and at the latter sum the total market value of the mine is only 10,8007.—a mere bagatelle for such a mine, and if it continues to improve, share may soon reach 1007.

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**WHEAL REETH.**—It

## TREGURTHA DOWNS AND OWEN VEAN CONSOLS

MINING COMPANY (LIMITED).

ST. HILARY AND PERRANUTHNOE, CORNWALL.

Capital, £40,000, in 16,000 shares, of £2 10s. each.

Deposit, 5s. per share on application, and 1s. on allotment.

HANDBOOK.

Union Bank of London, Princes-street.

Messrs. Vivian, Grylls, Kendall, and Co., Helston.

Messrs. Bolitho, Sons, and Co., Falmouth.

SOLICITORS.

H. Grylls, Esq., 17, Barge-yard Chambers, London.

Messrs. Grylls, Hill, and Hill, Helston.

LONDON MANAGERS—Messrs. Dunsford and Ranken, 9, Broad-street-buildings.

These mines are in a district in Cornwall, which has yielded copper and tin worth from £3,000,000 to £10,000,000 sterling.

The reports are unusually numerous and favourable, and by miners of the highest reputation.

Detailed prospectuses, with maps, plans, reports, forms of application, and all information may be obtained of Messrs. Dunsford and Ranken, No. 9, Broad-street-l-lings, and will be forwarded by post on application.

## THE ROARING WATER MINING COMPANY (LIMITED).

Incorporated pursuant to the Joint Stock Companies Acts, 1862.

Capital, £18,000, in 6000 shares of £3 each.

10s. to be paid on application, and 10s. on allotment.

DIRECTORS.

Sir JAMES DOMBRAIN, Monkstown, and 20, Molesworth-street, Dublin.

Colonel BUSH, 55, York-terrace, Regent's Park (Director of the Oriental Inland Steam Navigation Company).

CHARLES HAWKINS, Esq., 12, Broad-street, Oxford (Director of the St. Just Mines).

WILLIAM OGLIVIE, Esq., Cushing-court, Old Broad-street (Director of the St. Just Mines).

Captain PAUL, Queen's-road, Bayswater (late of the Knockmahon Mines).

H. CHURCHILL, Esq., Deddington, Oxfordshire (Director of the Strand Hotel Company).

BANKERS—London and County Bank, Lombard-street.

SOLICITORS.

Messrs. Meyrick and Gedge, 4, Storey's Gate, Great George-street, Westminster.

AUDITORS—Messrs. Cooper Brothers, public accountants, George-street, Mansion House.

BROKERS.

Messrs. Webb and Geach, 8, Finch-lane, Threadneedle-street, London.

Messrs. J. and J. Stephens and Son, 44, Dame-street, Dublin.

Robert M'EWEN, Esq., Duke-buildings, Bank-street, Manchester.

MANAGER—Mr. Thomas Cooper Smith.

OFFICES—5, THROGMORTON COURT, THROGMORTON STREET, CITY.

The object of this company is to work the copper mines of Roaring Water, situated in the county of Cork, a district well known among mineralogists as being rich in mineral deposits. The set extends over 1/4 mile in length, and 3/4 of a mile in breadth, and is held for a term of 31 years from July last, at a royalty of 1-18th, with a clause for renewal, on payment of a comparatively small sum at the end of that period, for the same term.

The promising character of the mines proposed to be worked by the present company fully warrants the expectation that early returns will be realised; there are 19 well-defined lodes upon the set, composed principally of yellow and peacock copper ores, rich specimens of malachite, friable quartz, and gossan of the finest description, from which many tons of rich ore have been taken, which on assay have been found to contain a large proportion of silver, and strong traces of gold. These lodes beyond all doubt are a continuation of the rich veins of copper now working with such great promise and success at the Schull Bay, Cappagh, and Ballycunisk Mines, all of which there can be no reasonable doubt are a continuation of the Berehaven lodes, which have returned enormous profits.

The several reports are from men of long practical experience, their testimony as to the highly-promising character of the property, and the great local advantages by which it is surrounded will be read with interest, and leave nothing to be urged by the directors, except an assurance of the strong confidence as to its value, and that this property will bear comparison with any of the rich mines opened in the district.

A large portion of the capital has been subscribed.

Applications for shares to be made to the bankers, directors, solicitors, brokers, and the manager, at the office of the company, where prospectuses and forms of application may be obtained; also reports on the mines from Capt. HENRY THOMAS; Capt. PAUL, late of the Knockmahon Mines; Capt. CARTER, of the St. Just Mines; Capt. MARTIN BOUNDY, of Dublin; and Capt. JAMES HOSKING, late of the South Cork Mines.

## THE ROARING WATER MINING COMPANY (LIMITED).—

APPLICATIONS FOR SHARES in this company will be RECEIVED UNTIL THE 15th JANUARY, 1863.

THOS. COOPER SMITH.

5, Warnford-court, Throgmorton-street, London.

## THE EAST CAMBRIAN GOLD MINING COMPANY (LIMITED).

MERIONETHSHIRE, NORTH WALES.

Incorporated under the Companies Act, 1862, with limited liability.

Capital, £50,000, in 50,000 shares of £1 each.

Deposit, 5s. per share on application, and 5s. on allotment.

If no allotment, deposits will be returned in full.

DIRECTORS.

CHAIRMAN—Lieut.-Gen. Sir F. M. SMITH, M.P., K.H., F.R.S., 39, Hyde-park-square, (Chairman of the Naval and Military Assurance Association).

J. HOPGOOD, Esq., 15, George-street, Hanover-square, W., and New House, St. Albans' Herts (Chairman of the Llanwit Vardis Colliery Company).

F. LASCELLES, Esq., Neigherry House, Hampstead (Chairman of East Indian Freehold Land Association).

Lieut.-Col. MONEY, 9, Berkeley-street, Berkeley-square (Director of Canadian Native Oil Company).

MILES CHARLES SETON, Esq., Randolph House, Maida-hill, and Wheal Seton, Cornwall.

CORNELIUS WALFORD, Esq., 8, Cannon-street, and Little Park, Enfield.

Lieut.-Col. WRAGGE, Fairfield House, Old Charlton.

BANKERS—London and County Bank, Lombard-street.

SOLICITOR—A. Fulbrook, Esq., Basinghall-street.

AUDITOR—James Holah, Esq., public accountant, 7, Lombard-street.

The East Cambrian Mine is bounded by the Prince of Wales and Cambrian Mines, several of their lodes running through it. The shares in the former, with £3 15s. paid, sell for £26; and the latter, in three months, have risen 75 per cent.

T. A. Readwin, Esq., F.G.S., before the British Association, stated "The mine has yielded, it is said, at the rate of 8 cwt. of gold to the ton of galena." A deputation of directors, after a personal visit, have expressed entire confidence in its prospects.

Assays of samples from the lodes give from 4 dwt. to 8 dwt. of gold per ton.

The purchase-money for the property is £5000 in cash and £10,000 in shares, not to be handed over until six months after allotment. The vendors are so satisfied with the prospects of the company that they have left the arrangements for payment to the absolute discretion of the directors.

Detailed prospectuses, with reports and forms of application for shares, may be had of the brokers, solicitor, or secretary, S. TAYLOR, Esq., 27, Bakersbury, London.

## A S P H A L T U M C O M P A N Y (L I M I T E D).—

Shareholders who have paid, as well as those who have not paid, the call claimed by the liquidators of this company, are requested to communicate, either personally or by letter, with Messrs. GIBBS and TUCKER, solicitors, Lothbury, London.

## G R E S H A M L I F E A S S U R A N C E S O C I E T Y ,

37, OLD JEWRY, LONDON, E.C.

DIRECTORS' ANNUAL REPORT, PRESENTED AT THE ORDINARY GENERAL MEETING OF THE GRESHAM LIFE ASSURANCE SOCIETY,

HELD AT THE HEAD OFFICE, 37, OLD JEWRY, E.C., IN THE CITY OF LONDON, ON TUESDAY, DECEMBER 23, 1862.

The following statement comprises the chief elements of the Society's transactions during the financial year ending July 31, 1862, and constitutes the Report of the Directors for such year to the general meeting.

The proposals offered have been exceedingly numerous, being 2678 in number, for Assurances amounting to £1,207,101, making an amount of no less than twenty thousand pounds, for ten millions of insurance since the commencement of the Society. The number of which the Directors have accepted and issued policies is 2135, for assurances of £1,076,040; in respect of which £50,373 2s. 10d. has been added as new premiums for the year.

The general premium income, after bonus reductions, has been £123,409 6s. 10d., exclusive of interest upon investments and annuities.

The Deaths, with the bonuses attached to the policies constituting claims, have amounted to £47,409 10s. 11d., thus completing a total of more than a quarter of a million distributed by the Society among the families of deceased members.

At the close of the year, after allowance for the various items of expenditure, and after exclusion of the share capital and deposits, the remaining funds actually accumulated and invested at interest, amounted to £90,847 8s. 1d.

The accounts for the year, with the various details, have been monthly investigated by the auditors, and being certified by them to be correct, have already been circulated, and are now submitted for approval and adoption.

During the past year the directors have had various methods for the extension of business under their notice, but, as on former occasions, have not extended their agencies beyond the limits of Europe, so as not to include any case, or class of cases, that cannot be rigidly investigated from week to week personally by the board. The usual extraction, by the assured, of so many days of grace, for the option of paying or not paying their premiums, will always prevent the premium account from being purely in a cash state, but as every approach to a clear apprehension of the real financial result is to be desired, the efforts of the directors will be ever exerted in such direction. The system now adopted consists in not taking credit, as a manner of account, for all the new business transacted in the gross, but in writing off the main charges, and carrying forward, as new premiums, such remaining portion only as may be fairly representative of the money result.

During the year the Joint-Stock Companies Act of 1862 has come into operation, rendering it necessary that a new registration of companies should take place, with the distinction of unlimited companies, limited companies, or companies limited by a guarantee. After taking all the circumstances into consideration, and the particular nature of the society's transactions, the directors determined that the Gresham Life Assurance Society should be registered without any limit otherwise than by its own contracts, and have so registered it accordingly.

The directors retiring on the present occasion are John Beddoe, George Lowe, F.R.S., and Joseph Williams, Esq., who, being re-eligible, offer themselves, and are recommended by the board as the list for election.

In conclusion, the directors conceive there is ample reason to be satisfied with the manifest progress the Gresham Life Assurance Society has made, and will never cease, by every means in their power, to uphold the high character it has already obtained, and to extend its usefulness upon every occasion that may legitimately present itself.

By order of the board,

EDWIN JAMES FARREN, Actuary and Sec.

37, Old Jewry, London, E.C., Dec. 23, 1862.

## In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WHEAL HENRY MINING COMPANY.—The Registrar of this Court has appointed the 22d day of January next, at the Registrar's office, at Truro, to SETTLE the LIST of CONTRIBUTORIES of the ABOVE-NAMED COMPANY, now made out and deposited at the said office.

WILLIAM MICHELL, Registrar of the said Court.

Dated this 24th day of December, 1862.

## In Chancery.

IN the MATTER of the JOINT-STOCK COMPANIES WINDING-UP ACTS, 1848 and 1849, and of the TRETOIL AND MESSER MINING COMPANY.

M. R. E. H. LIDDELL, Auctioneer, has received instructions from F. Whinney, Esq., the official manager of the above company, to SELL, BY AUCTION, on Thursday and Friday, the 15th and 16th of January, 1863, at TRETOIL AND MESSER MINE, Cornwall, about two miles from Bodmin, the PLANT, MACHINERY, and EFFECTS thereon, viz.:—

A 36 in. CYLINDER PUMPING ENGINE, and TWO BOILERS 18½ tons.

A 22 in. CYLINDER STAMPING ENGINE, with 24 heads of stamp attached.

A water-wheel and stamp, capstan, capstan rope, shears, balance bar, pitwork, and other effects of an extensive mine, full particulars of which are given in handbills.

The whole of the materials, &amp;c., on the mines will be first offered in one lot, and if not so disposed of the engines, and the other more valuable articles, will be sold on the first day, and the remainder on the second day.

Catalogues, with further particulars, may be obtained of Messrs. VALLANCE and VALANCE, solicitors, Essex-street, Strand, London; Messrs. HARDING, PULLEN, WHINNEY, and GIBSONS, accountants, 5, Serie-street, Lincoln's Inn, London; Capt. RICH, on the mine; or the Auctioneer, at Bodmin, four days before the sale.

The sale to commence at Eleven for Twelve o'clock precisely.

Dated Bodmin, December 26, 1862.

## TO ENGINEERS, MINING AGENTS, AND OTHERS.

IN THE MATTER OF THE RIBDEN MINING COMPANY (LIMITED).

M. R. JAMES CARTER WILL PEREMPTORILY SELL, BY AUCTION (by order of the liquidators of the said company), on Thursday, the 22d day of January, 1863, in one or more lots or lots, and subject to such conditions as will be declared at the time of sale.

All that the UNEXPIRED TERM of 21 years, from 25th March, 1855, of and in the LEASE of the RIBDEN SETT, dated the 1st day of September, 1855, and granted by the late Right Honourable Bertram Arthur Earl of Shrewsbury, to Messrs. Richmond and Nine.

Also, another excellent 25 horse power STEAM ENGINE, with 18 in. cylinder, BOILER, wrought-iron chimney and fixings complete, and in good condition, now used as a rotary winding engine.

About 100 fms. of pumping apparatus and pitwork, of the best construction; 2 valuable 12 in. capstan ropes (one quite new), powerful capstan, horse whinstone and other machinery, the contents of a smith's shop, a large quantity of timber, wrought-iron, cast-iron, office desk, and miscellaneous effects, *etc.* per catalogues, which will be ready ten days prior to the day of sale, and may be had at the office of the auctioneer, High-street, Nottingham; or of Captain R. Nine, Warslow Cottage, Ashbourne; the White Hart Hotel, Uttoxeter; and the Wheatsheaf Inn, Cheeple.

The sale will commence punctually at Twelve o'clock, at the mine, which is situated about three miles from the Alton and Oakamoor stations of the North Staffordshire Railway, and the engines, pumping plant, &amp;c., will be sold at Two o'clock precisely.

RAILWAY PLANT FOR SALE, BY AUCTION, at WHITROPE, near the RICCARION JUNCTION, and at SHANKEND STATION, on the BORDER UNION RAILWAY, ROXBURGHSHIRE, on MONDAY, TUESDAY, and WEDNESDAY NEXT, January 5th, 6th, and 7th, 1863.

Mr. W. Ritson having completed his contract upon the "Border Union" section of the North British Railway.

M. R. GEORGE HARDCastle is instructed to SELL, BY AUCTION, on MONDAY NEXT, January 5th, at WHITROPE:—

Malleable iron skips, gin drums, huts and hut scantlings, hardwood centres, hemp and wire ropes, Gwynne's CENTRIFUGAL 6 in. PUMP, CONTRACTORS' RAILS, SCRAP METAL, TWO PORTABLE ENGINES, with 8 and 9 in. cylinders, by Hornsby and Son; TWO HORIZONTAL ENGINES, with 12½ and 15½ in. cylinders, three sets of friction gear, CORNISH and OTHER BOILERS, MORTAR MILLS, sets of 7½, 9, and 12 in. pumps, fan blasts, large and small weighing machines, beams and scales, malleable iron blocks, HYDRAULIC PRESS, screw jacks, new nail and circular saws, EIGHT FLAT-BOTTOMED STONE BOGIES, FORTY "PEDESTAL" EARTH WAGONS, THIRTY-SEVEN "ROLLER" EARTH WAGONS, EIGHTEEN "FIDDLESTICK" EARTH WAGONS, SIXTEEN "JOINT" EARTH WAGONS, and numerous other articles of value.

ON TUESDAY NEXT, January 6th, 1863, at WHITROPE:—

Earth barrows, malleable wagon axles, scrap iron, drills, chains, patent scale, pit tubs, large screw stocks, boring rods, new smiths' bellows, drills, stone hammers, miners' picks, punching machines, anvils, vices, and smiths' tools, upwards of ONE HUNDRED SETS of CAPITAL TRACE HARNESS, TWENTY-ONE CART SADDLES, with breeching, TWENTY-TWO NEW SCOTCH and OTHER CARTS, long cart, spring cart, FIVE strong TIMBER WAGONS, hay cutters and corn crushers, by Turner of Ipswich; new oak wagon wood, wooden huts, hut framing, and a great variety of costly and useful articles.

ON WEDNESDAY NEXT, January 7th, 1863, at WHITROPE:—

## Sheffield School of Practical Science and Metallurgy.

## SHEFFIELD SCHOOL OF PRACTICAL SCIENCE

AND METALLURGY.

PRESIDENT.

His Grace the DUKE OF DEVONSHIRE, K.G., F.R.S., D.C.L., Chancellor of the University of Cambridge.

VICE-PRESIDENTS.

The MAYOR OF SHEFFIELD, JOHN BROWN, Esq.

THE MASTER CUTLER.

The Right Hon. LOED WHARNCLIFFE.

Sir DAVID BREWSTER, K.H., D.C.L., F.R.S.L. and E., M.R.I.A.

Sir RODERICK MURCHISON, F.R.S., Director of the Royal School of Mines.

JOHN PERY, Esq., M.D., F.R.S., Professor of Metallurgy in the Royal School of Mines.

WILLIAM FAIRBAIRN, Esq., C.E., F.R.S.

ROBERT HUNT, Esq., F.R.S., F.S.S., Keeper of Mining Records.

WARINGTON W. SMYTH, Esq., M.A., F.R.S., Professor of Mining and Mineralogy in the Royal School of Mines.

DIRECTOR.

The Rev. G. B. ATKINSON, M.A., Principal of the Collegiate School; late Fellow and Assistant Tutor of Trinity Hall, Cambridge.

PROFESSOR.

CHEMISTRY, METALLURGY, AND GEOLOGY—JAMES ALLEN, Ph.D., F.C.S. of the Universities of Giessen and Berlin.

ENGINEERING AND MINING—J. THOMPSON, C.E.

MATHEMATICS, NATURAL PHILOSOPHY, AND APPLIED MECHANICS—Rev. G. B. ATKINSON, M.A.

The Sheffield School of Practical Science and Metallurgy will afford a complete scientific education to students who are destined to become civil, mechanical, naval, or manufacturers of any kind. Its object is thoroughly to discipline the principles of those sciences upon which the operations of the engineer, metallurgist, or manufacturer depend.

The education will be given by means of systematic courses of lectures, by catechetical class instruction, by practical teaching in the laboratory and drawing room, and occasionally by field excursions.

The School of Practical Science and Metallurgy will be conducted in the buildings of the Sheffield Collegiate School. The two institutions, although both under the superintendence of the Rev. G. B. Atkinson, Principal of the Collegiate School, are, however, entirely distinct.

A detailed prospectus, containing syllabuses of all the courses of lectures, and all other information, arrangements for boarding, &amp;c., may be obtained by application to the director.

THE SCHOOL WILL OPEN IN THE FIRST WEEK IN FEBRUARY, 1863.

**H**ALL AND WELLS, PATENTEES AND MANUFACTURERS OF SUBMARINE TELEGRAPH CORES, CABLES, &c.—TELEGRAPH CONDUCTORS INSULATED WITH INDIA RUBBER AT £5 per mile and upwards, PARTICULARLY ADAPTED FOR MINING PURPOSES. Further particulars as to price of cores, cables, &c., can be had on application at 60, Aldermanbury, City, E.C.; and Steam Mills, Mansfield-street, Borough-road, Southwark, S.E. Copper wire covered with silk, cotton, or any other material, to order.**C**REASE'S PATENT EXCAVATING MACHINERY, for SUPERSEDING the SLOW and EXPENSIVE USE of MANUAL LABOUR in SINKING SHAFTS, DRIVING LEVELS, TUNNELLING, &c., is guaranteed to drive through any rock of average hardness at a minimum rate of 1 fm. per diem, and to sink shafts at the rate of 2 fms. in three days.

Mr. CREASE will undertake contracts for sinking shafts, driving levels, &amp;c., at an enormous reduction of time and great saving in cost.

Applications to be addressed to Mr. GEORGE T. CURTIS (sole agent), 17, Gracechurch-street, London, E.C.

By providing the power of calculating the time and cost to explore a certain depth and extent of ground, speculation in mining will be assimilated to commercial pursuits, with this unmistakable advantage—that when the ground has been once carefully and judiciously selected, and operations properly and systematically carried out for its development, there would be far less chance of unsatisfactory results than are met with by merchants and manufacturers in the usual routine of their business. As this important invention must beneficially interest the landowners, mine proprietors, merchants, and miners, we hope it will meet with immediate adoption.—*Mining Journal*.**A**SSAYS AND ANALYSES OF EVERY DESCRIPTION Conducted by JOHN MITCHELL, F.C.S., M.G.A. (late Mitchell and Rickard) Author of "Manual of Practical Assaying," "Metallurgical Papers," &c.

All communications and samples to be addressed (free) to Mr. MITCHELL, care of Mr. P. Clay, 29, Great St. Helen's, London, E.C.

**T**o INVENTORS.—All INTENDING PATENTEES should PROCURE THE PRINTED INFORMATION regarding PATENTS, their COST and the MODE of PROCEDURE to be adopted, ISSUED GRATIS by the GENERAL PATENT COMPANY (LIMITED), 71, FLEET STREET, LONDON.

R. MARSDEN LATHAM, Sec.

**A**CCIDENTS BY ROAD, RIVER, OR RAILWAY, ACCIDENTS IN THE FIELD, THE STREETS, OR AT HOME, May be provided against by taking a Policy of the RAILWAY PASSENGERS' ASSURANCE COMPANY,

64, CORNHILL, LONDON.

£140,000 has been already paid as compensation for accidents of all kinds,

In 75 fatal cases, and 6880 cases of personal injury.

Rates and further particulars may be obtained at the railway stations, of the local agents, or at the

HEAD OFFICE, 64, CORNHILL, LONDON, E.C.

WILLIAM J. VIAN, Sec.

Empowered by special Act of Parliament, 1849.

**A**USTRALIA, NEW ZEALAND, AND BRITISH COLUMBIA, WHITE STAR LINE OF EX-ROYAL MAIL CLIPPERS, SAILING FROM

LIVERPOOL on the following dates:—

For Register. Burthen. To sail.

ARABIAN ..... Melbourne ..... 1098 ..... 2000 ..... Jan. 20.

LORD RAGLAN ..... Melbourne ..... 1904 ..... 3500 ..... Feb. 20.

WHITE STAR ..... Melbourne ..... 2339 ..... 3000 ..... March 20.

The clippers of this line are noted for their superior accommodation, punctuality of sailing, and rapid passages.

For freight or passage apply to the owners, H. T. WILSON and CHAMBERS, 21, Water-street, Liverpool; or H. T. WILSON, COOKE, and CO., 27, Leadenhall-street, London; or to GRINDLAY and CO., 55, Parliament-street, and 124, Bishopsgate-street, London.

**L**EICESTER AND CO. (late Leicester, Brache, and Teague), CONSULTING MINING ENGINEERS AND SURVEYORS, AND GENERAL MINING AGENTS, MELBOURNE, VICTORIA, PROCUER MINING LEASES on ELIGIBLE TERMS from the GOVERNMENT of VICTORIA and NEW SOUTH WALES, on receipt of a remittance for £200, to cover costs of lease, survey and report, &c. Meers, LEICESTER and CO. OFFER to TAKE the MANAGEMENT of MINING COMPANIES, and PROVIDE OFFICE ACCOMMODATION, for a percentage on the profits of the company.

All remittances must be made through our bankers, the Union Bank of Australia.

For further particulars, apply to Mr. RICHARD MIDDLETON, *Mining Journal*, 26, Fleet-street, London, E.C.**T**HE MINING REVIEW, AND JOURNAL OF COMMERCE, TRADE AND MANUFACTURE, SCIENCE AND THE ARTS.

Wednesday, March 26, 1863. Subscription, £1 1s. annually. Price 6d. stamped.

**R**AILWAYS AND MINES. Capitalists who seek safe and profitable investments, free from risk, should act only upon the soundest information. The market prices for the day are for the most part governed by the immediate supply and demand, and the operations of speculators, without reference to the bona fide merits of the property. Railways depend upon the traffic, expenditure, and capital accounts, the probabilities of alliance or competition with neighbouring companies, the creation of new shares, the state of the money market as affecting the renewal of debentures, and other considerations founded on data to which those only can have access who give special attention to the subject. Mines afford a wider range for profit than other public securities. The best are free from debt, have large reserves, and pay dividends monthly varying from £15 to £25 per cent. per annum. Instances frequently occur when other, should be purchased only upon the most reliable information. The undersigned devote special attention to railways and mines, afford every information to capitalists, and effect purchases and sales upon the best possible terms. Thirty years' experience in mining pursuits justifies us in offering our advice to the uninitiated in selecting mines for investment; we will, therefore, forward, upon receipt of Post-office order for £5., the names of six dividend and six progressive companies that will, in our opinion, well repay capitalistic for money employed.

MESSRS. TREDDINICK AND CO., STOCKS and SHAREBROKERS, and DEALERS IN BRITISH MINING SHARES, 78, LOMBARD STREET, E.C.

PRACTICAL MECHANICS' JOURNAL FOR JANUARY, 1863 (Part 178, Price 1s.), with a large plate engraving of M. Fcahey's Rotatory Disc Blowing Engines, and 30 woodcuts. Original Articles on Steel and the Future of Sheffield; the Portable Engine, Past, Present, and Future; Wheeles, Iron and Wood; Ransome's Concrete Stone, Colliery Explosions, the Great Exhibition (Art. 8), Armstrong Guns.—Recent Patents: Petroleum, Paraffin; Johnson, Red Lead; Ashbury, Railways; Johnson, Cleaning Tubes; House, Crushing Machine; Barton, Soda and Potash; Robertson, Distributing Fluids. Law Reports of Patent Cases.—Prolongations: Bettis, Capsules; Burns, Cotton Gins; Bakewells, Electric Telegraphs; Clarksons, Manufacture of Leather. Correspondence, Reviews, Scientific Societies, Monthly Notes, Lists of Patents and Designs.

London: Longman and Co., Ludgate-hill; Proprietor's Offices (Offices for Patents), 47, Lincoln's Inn-fields, W.C.

**T**HE BUILDING NEWS. An Illustrated Journal, price 1d., devoted to Architecture, Civil Engineering, and the Arts of Design and Building. It contains original and practical Essays on Fine Art and on the Principles and Practices of Construction, Notices of New Buildings in all parts of the kingdom, Reports of Architectural and Scientific Societies, Notes on Church Decorations, Memorials and Stained Glass; Sanitary, Gas, Water, and other intelligence; Improved Dwellings for the Working Classes; Lists of Tenders received, and of Competitions and Contracts open; suggestions (oftentimes illustrated) on subjects specially interesting to Architects, Builders, Contractors, and their Employes; correct weekly lists of all new patented inventions connected with every branch of the building trade, and a variety of interesting miscellaneous matter.

London: 26, Bouvier street, Fleet-street, E.C.

**T**HE NEWCASTLE CHRONICLE AND NORTHERN COUNTIES ADVERTISER. (ESTABLISHED 1764). Published every Saturday, price 2d., or quarterly 2s. 2d.

THE DAILY CHRONICLE AND NORTHERN COUNTIES ADVERTISER.

Published every morning, price 1d.

The best medium for mining, manufacturing, shipping, and trading advertisements in the North of England.

Offices, 42, Grey-street, Newcastle-upon-Tyne; 50, Howard-street, North Shields; 195, High-street, Sunderland.

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## THE MINING SHARE LIST

## DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last Paid.	
1800 Aldersey Edge (Cheshire) [L.]	10 0 0..	..	..	7.18 6..	0 10 0..	May, 1862	
4800 Bedford United (copper), Tavistock	3 6 8..	4 ..	..	13 0 0..	0 2 0..	Dec, 1862	
240 Boscan (tin), St. Just	10 0 0..	..	..	36 10 0..	1 0 0..	Mar, 1862	
200 Botalack (tin, copper), St. Just	91 5 0..	..	..	455 15 0..	6 0 0..	Nov, 1862	
918 Cargill (silver-lead), Newlyn	15 5 7..	41 ..	49 42	1 0 0..	0 1 0..	Nov, 1862	
1300 Carn Bras (copper, tin), Illogan	15 0 0..	62 ..	..	273 10 0..	2 0 0..	Feb, 1862	
246 Copper Hill (copper), Redruth	48 0 0..	..	..	9 10 0..	2 10 0..	Sept, 1862	
12000 Copper Miners of England	25 0 0..	..	..	7 1/2 percent	Half-yrly.	..	
35000 Ditto ditto (stock)	150 0 0..	..	..	1 percent	Half-yrly.	..	
1055 Craddock Moor (copper), St. Cleer	8 0 0..	..	..	7 12 0..	0 4 0..	July, 1862	
512 Creagbwans and Penkevill, St. Columb	..	..	..	10 10 0..	0 10 0..	Jan, 1862	
857 Cwm Erin (lead), Cardiganshire [L.]	7 10 0..	..	..	7 13 0..	0 5 0..	July, 1862	
128 Cwmwyltwith (lead), Cardiganshire	60 0 0..	..	..	247 10 0..	4 0 0..	Sept, 1862	
280 Derwent Mine (sil.-lead), Durham	300 0 0..	..	..	147 0 0..	5 0 0..	June, 1862	
1624 Devon Gt. Cons. (cop.), Tavistock [S.E.]	1 0 0..	505 ..	..	826 0 0..	10 0..	Nov, 1862	
358 Dolcoath (copper, tin), Camborne	128 17 6..	..	695	693 10 0..	7 0 0..	Dec, 1862	
2006 Dyfynwyn (lead), Wales	12 6 0..	..	..	9 15 0..	2 6 0..	Sept, 1862	
512 East Bassel (cop.), Redruth	29 10 0..	52 ..	54 56	105 0 0..	1 0 0..	Nov, 1862	
614 East Cardon (copper), St. Cleer [S.E.]	2 14 6..	45 ..	41 45	4 17 6..	1 0 0..	Oct, 1862	
200 East Darren (lead), Cardiganshire	32 10 0..	..	..	84 10 0..	0 10 0..	Oct, 1862	
128 East Pool (tin, copper), Pool, Illogan	24 5 0..	..	..	220 0 0..	5 0 0..	Dec, 1862	
5000 Foxdale (lead) Isle of Man [L.]	25 0 0..	..	..	..	..	July, 1862	
5000 Frank Mills (lead), Devon	3 18 6..	..	..	0 16 0..	0 2 0..	Mar, 1862	
1758 Great Wheal Fortune (tin), Breage	18 6 0..	31 ..	30 31	3 0 0..	0 10 0..	Oct, 1862	
5908 Great Wh. Vor (tin, cp.), Helston [S.E.]	40 0 0..	..	..	2 2 6..	0 5 0..	Sept, 1862	
1024 Gunnis Lake (Glimmers Adit), Helston	8 2 0..	..	..	0 3 0..	0 1 6..	Mar, 1862	
1024 Herodotus (Adit), near Liskeard [H.E.]	8 10 0..	..	..	49 51	21 10 0..	1 15 0..	Oct, 1862
1000 Hibernian Mine Company	92 6 2..	..	..	9 0 0..	0 15 0..	Sept, 1862	
400 Ibsburne (lead), Cardiganshire, Wales	18 15 0..	..	..	399 10 0..	4 0 0..	Nov, 1862	
9000 Marke Valley (copper), Cardon	4 10 6..	9 ..	81/2 8%	3 4 0..	0 4 0..	Oct, 1862	
1800 Minera Mining Co. [L.], (id.), Wrexham	25 0 0..	..	..	99 18 0..	7 0 0..	Nov, 1862	
640 Mount Pleasant (lead), Mold	4 0 0..	..	..	18 18 1..	0 7 6..	Aug, 1862	
5936 North Treskerby (copper), St. Agnes	1 0 0..	4 ..	37/8 4%	0 3 0..	0 1 6..	Dec, 1862	
8000 Orshead (lead), Flintshire	0 8 0..	..	..	0 10 4..	0 8 0..	Mar, 1862	
4409 Par Consols (cop.), St. Blazey [S.E.]	1 2 6..	..	..	36 18 6..	0 7 0..	Nov, 1862	
205 Parys Minas (copper), Anglesey [L.]	50 0 0..	..	..	47 10 0..	10 0..	Oct, 1862	
400 Phoenix (copper and tin)	..	..	..	..	..	..	
1123 Providence (tin, U.S. Lelant) [S.E.]	10 6 7..	42 ..	40 42	66 5 0..	1 5 0..	Nov, 1862	
8000 Rosehill Hill and Ransom United	3 16 0..	..	..	0 8 6..	0 2 6..	Sept, 1862	
4026 Rosewarne Consols (copper) ..	3 7 6..	..	..	0 2 0..	0 2 0..	Oct, 1862	
16 Rhosneigr (lead)	50 0 0..	..	..	1250 0 0..	100 0..	Quarterly	
512 South Cardon (cop.), St. Cleer [S.E.]	1 8 0..	400 ..	385 295	391 0 0..	5 0 0..	Nov, 1862	
512 South Tolquis (cop.), Redruth, Cornwall [L.]	8 0 0..	46 ..	48 45	73 10 0..	1 0 0..	May, 1862	
5000 South Exmouth (lead), Christow	1 0 0..	51 ..	51 ..	5 0 0..	0 5 0..	Dec, 1862	
498 8. Wh. Frances (cop.), Illogan [S.E.]	18 18 9..	95 ..	99/4 97 1/2	364 5 0..	2 0 0..	Nov, 1862	
280 Spearn Moor (tin, copper), St. Just	31 17 9..	..	..	9 12 0..	1 0 0..	June, 1862	
940 St. Ives Consols (tin), St. Ives	8 0 0..	..	..	485 10 0..	0 10 0..	Aug, 1862	
4000 Tincroft (cop., tin), Pool, Illogan [S.E.]	9 0 0..	14 ..	13 13 1/4	11 18 6..	0 5 0..	Dec, 1862	
1000 Trumpet Consols (tin), near Helston	11 10 0..	..	..	11 0 0..	0 2 0..	Mar, 1862	
4200 Vixna and Clogau (copper) [L.]	2 15 0..	33 ..	31 23	4 12 6..	1 0 0..	Oct, 1862	
4000 West Bassel (copper), Illogan [S.E.]	1 10 0..	..	..	23 6 0..	0 6 0..	Sept, 1862	
1024 West Cardon (cop.), Liskeard [S.E.]	5 0 0..	28 ..	26 27	101 1 3..	10 0..	Oct, 1862	
4000 West Fowey Consols (tin and copper)	7 10 0..	..	..	0 19 0..	0 3 0..	May, 1862	
1024 West Pentrustral	4 0 0..	8 ..	..	2 19 6..	2 19 6..	May, 1862	
4000 W. Wh. Seton (cop.), Camborne [S.E.]	47 10 0..	290 ..	280 290	368 0 0..	5 0 0..	Dec, 1862	
1024 West Cardon (cop.), Liskeard [S.E.]	5 2 6..	85 ..	75 80	10 0 0..	2 0 0..	Sept, 1862	
2000 Wh. Clifford Amalgamated (cop.), Gwen	30 0 0..	21 ..	19 20	28 6 0..	0 7 6..	Sept, 1862	
1024 Wh. Great Grylls (tin), Perranporth	2 4 0..	34 ..	31 3/2 33	2 2 0..	0 10 0..	Sept, 1862	
1024 Wh. Great Hæs (tin, St. Just)	9 13 8..	..	..	4 5 0..	0 5 0..	May, 1862	
4800 Wh. Landolt and Wray (lead), St. Ives	3 10 8..	10 ..	9 1/2 10 ..	3 2 0..	1 0 0..	Dec, 1862	
896 Wh. Margaret (tin), U.S. Lelant [S.E.]	17 17 6..	42 ..	40 42	75 5 0..	1 0 0..	Nov, 1862	
100 Wh. Mary Ann (tin), Lelant	36 2 6..	..	..	284 5 0..	4 0 0..	Mar, 1862	
1024 Wh. Mary Ann (id.), Menheniot [S.E.]	8 0 0..	..	..	56 17 6..	0 10 0..	Dec, 1862	
80 Wh. Owles (tin), St. Just, Cornwall	70 0 0..	..	..	310 18 0..	7 10 0..	Nov, 1862	
124 Wh. Wheel Prospecting (tin), Lanivet	3 0 0..	..	..	10 0 0..	2 10 0..	June, 1862	
386 Wh. Wheel Seton (tin, copper), Camborne	58 10 0..	180 ..	230 230	144 15 0..	3 0 0..	Dec, 1862	
1040 Wh. Trelawny (id.), Liskeard [S.E.]	8 17 0..	..	..	46 2 6..	0 10 0..	Nov, 1862	

\* Dividends paid every two months. † Dividends paid every three months.

## MINES WITH DIVIDENDS IN ABEYANCE.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last Paid.
700 Aldersey Edge (silver-lead), Merioneth	1 10 0..	..	..	10 0 0..	0 10 0..	Mar, 1859
4945 Alfred Consols (cop.), Phillack [S.E.]	3 15 11..	..	..	20 3 0..	0 2 6..	April, 1859
500 Cefn Cwm Brywys (lead), Cardigan	39 0 0..	..	..	9 0 0..	0 4 0..	April, 1861
256 Condurrow (cop., tin), Camborne	35 0 0..	..	..	85 0 0..	0 2 0..	June, 1857
2450 Cook's Kitchen (copper), Illogan	17 0 9..	34 ..	32 33	1 7 0 0..	0 7 0..	May, 1862
4076 Devon and Cornwall (copper)	5 16 8..	..	..	10 0 0..	0 2 6..	Feb, 1859
672 Ding Dong (tin), Guylav	40 15 6..	6 ..	..	16 7 0..	1 10 0..	Mar, 1857
4200 Drake Walls (tin), Calstock	2 1 0..	13 ..	..	16 7 0..	0 1 6..	June, 1862
4940 Fowey Consols (copper), Twardreath	4 0 0..	..	..	41 9 3..	0 2 6..	June, 1862
6000 Great South Toulquh (copper), Redruth	14 0 6..	73 1/2 7 1/2	..	7 18 6..	5 0 0..	Dec, 1861
119 Great Worth (tin), Germoe	100 0 0..	..	..	231 10 0..	7 10 0..	Feb, 1857
5000 Kelly Bray (lead, copper), Callington	4 15 6..	7% ..	8% 7%	0 6 0..	0 2 0..	Feb, 1860
116 Levant (copper, tin), St. Just	2 10 0..	..	..	1091 0 0..	5 0 0..	May, 1860
20000 Mining Co. of Ireland (cop., lead, coal)	7 0 0..	..	..	14 7 11..	0 7 0..	Dec, 1861
6000 New Birch						